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Intercomparison Program for Organic Speciation in PM2.5 Air Particulate Matter: Description and Results for Trials I and II

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Intercomparison Program for Organic Speciation in PM2.5 Air Particulate Matter: Description and Results for Trials I and II

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Abstract

A working group of investigators, who are characterizing and quantifying the organic compounds in particulate matter (PM) as part of the US EPA's PM 2.5 research program and related studies, was established to advance the quality and comparability of data on the organic composition of PM. This group has completed two interlaboratory comparison studies. The first study used a subset of SRM 1649a (Urban Dust, sieved to <123 µm) that had been sieved to <63 µm (Air Particulate I) as an unknown PM sample. In addition to Air Particulate I, the participants received a dichloromethane extract of Air Particulate I as a second unknown sample and a sample of SRM 1649a for use as a control material. For the second study, the participants received a sample of PM2.5 collected recently in Baltimore, MD along with a sample of SRM 1649a. The target analytes include polycyclic aromatic hydrocarbons (PAHs), nitrated PAHs, alkanes (including hopanes and cholestanes), sterols, carbonyl compounds (ketones and aldehydes), acids (alkanoic and resin), phenols, and sugars. Because this is a performance-based study, laboratories are encouraged to use the methods that they are routinely using in their laboratories to analyze similar samples. The consensus values, accuracy and precision assessments, and the methods used by each laboratory are summarized in this report.

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Introduction

Organic chemicals adsorbed to fine particulate matter (PM) in the ambient air account for a major component of the PM mass and include source tracers as well as toxic compounds that may contribute to adverse human health effects. A working group of PM investigators from the US Environmental Protection Agency (EPA) Supersites and related research programs was established to improve the quality and comparability of data on the organic composition of aerosols. The working group is known as the PM2.5 Organic Speciation Working Group and includes researchers involved in the EPA PM Supersites and related sites, EPA PM centers, national laboratories and other research centers, as well as regional and state laboratories. The goal of the working group is to improve the characterization and quantification of organic compounds associated with fine PM through participation in interlaboratory comparison exercises and provide input for the development of appropriate SRMs. Improvements in the quality of organic measuerments will allow the comparison of organic species across geographic regions and will aid in source receptor modeling, in relating toxicity and health outcomes to specific organic species, and in assessing human exposure to specific organic species and sources.

To aid in this effort, the National Institute of Standards and Technology (NIST) is coordinating a series of interlaboratory trials using interim reference materials through the Intercomparison Exercise Program for Organic Contaminants in PM2.5 Air Particulate Matter. The initial interlaboratory trial utilized PM from a bulk portion of Standard Reference Material (SRM) 1649a Urban Dust, that had been sieved to less than 63 µm, and an extract of these particles. The original SRM 1649, collected in Washington, DC and issued in 1982, was reissued as SRM 1649a in 2000. SRM 1649 and SRM 1649a were sieved to less than 123 µm when prepared. The second interlaboratory trial utilized a PM2.5 (2.5 µm, aerodynamic diameter) sample recently collected in Baltimore MD. Results from these trials will provide the basis for improved quality assurance (QA) measures and methods for characterizing the PM-associated organic matter. The target organic analytes vary among the participants and include: alkanes (including hopanes and cholestanes), alkenes, aromatic and polycyclic aromatic hydrocarbons (PAHs), nitrated PAHs, sterols, carbonyl compounds (e.g., ketones and aldehydes), acids (alkanoic and resin acids), phenols, methoxyphenols, and sugars. The participating laboratories are not constrained by a specific analytical method; however, the laboratories are requested to summarize the methods used so that the results from different methods can be compared.

The first interlaboratory comparison study (Trial I) of the PM2.5 Organic Speciation Working Group was initiated in February 2001. The purpose of the interlaboratory study was to: (1) determine the comparability of measurements for various organic analytes among the participants and (2) establish consensus reference values for the interim reference materials and SRM 1649a for species not previously value assigned by NIST. A secondary objective was to determine if the interlaboratory variability was decreased by providing a solvent extract of the particles compared to analysis of the particles. Trial I used existing SRM 1649a bulk material that had been sieved to less than 63 μ m and a solvent extract of this material. SRM 1649a was analyzed as the control sample. The trial results from 14 participating laboratories and summary statistics were first reported at an Organic Speciation Working Group meeting held during the American Association for Aerosol Research (AAAR)

Conference in October 2001. Because it was a requirement that all participants return data on the particulate sample used for the first trial prior to receiving the materials for the second trial (a sample of PM2.5 collected in Baltimore, MD plus SRM 1649a as a control), an additional nine laboratories have returned data for Trial I since the October 2001 meeting.

The second interlaboratory comparison study (Trial II) using a Baltimore sample of PM2.5 collected during 1998, 1999, and 2001 and SRM 1649a as a control was initiated in March 2002. As mentioned above, these samples were sent only to those participants who returned data for the particulate sample used in Trial I. A brief discussion of percent differences among the seven laboratories who had reported results for Trial II by October 2002 was held at the Organic Speciation Working Group meeting convened during the AAAR Conference in October 2002. Since then, an additional 11 laboratories have reported data for Trial II. The Trial I and Trial II results and summary statistics for all of the laboratories reporting results to date are detailed in this report.

Sources and Preparation of Materials used in Intercomparison Trial I

The air particulate extract was prepared from bulk SRM 1649 Urban Dust that has been resieved to $<63~\mu m$. The original SRM 1649 (currently available as SRM 1649a) was collected in the Washington, DC area over a period in excess of 12 months using a baghouse. The material was removed from the baghouse filter bags and combined in a single lot. The lot was passed through a 125 μm sieve. The sieved material was mixed in a V-blender.

For the extract, each of 10 pressurized fluid extraction cells was filled with Hydromatrix mixed with 1 g of air particulate matter and fitted with three filters on the exit side. The extractions were performed using the following conditions:

Solvent: dichloromethane

Heat: 100 °C for 5 min

Pressure: 2000 psi

Static cycles: three at 5 min each

Flush: 90 % volume

Purge: 180 s

The extracts from the 10 cells were combined and concentrated to 100 mL, and the extractions were performed for a second set of 10 cells. The combined extract (200 mL) was then ampouled with approximately 1.2 mL of extract per ampoule. Each 1 mL of extract represented approximately 0.1 g of air particulate matter. This extract was labeled as QA01EXT01-Air Particulate Extract I. Some of the bulk air particulate used to make the extract was bottled (500 mg per bottle) and labeled as QA01APT01-Air Particulate I. In addition, SRM 1649a was rebottled with approximately 500 mg per bottle. One bottle each of QA01APT01 and SRM 1649a and five ampoules of QA01EXT01 were sent to each of the laboratories participating in the Intercomparison Exercise Program for Organic Contaminants in PM2.5 Air Particulate Matter. The instructions and data sheet that accompanied the samples are provided in Appendix A. In the letter accompanying each shipment, each participant was asked to analyze each of three replicate samples and to concurrently analyze the NIST SRM 1649a Urban Dust.

Sources and Preparation of Material used in Intercomparison Trial II

The PM2.5 material was collected in Baltimore City, MD at the location of the primary sampling site for the Baltimore PM Supersite [1] in the vicinity of major Baltimore industries, e.g., incinerators and factories to the south and southwest and also several major highways to the west and east. The bulk of the material (approximately 90 %) was collected in the winter of 1998-1999 with the remainder being collected in January 2001. The sampling apparatus is an Ultra-High-Volume Sampler (UHVS), consisting of an air inlet, cyclone separator, filter cassettes, and a regenerative blower. The fine particles (2.5 µm, aerodynamic diameter) were separated in the high volume cyclone sampler and collected onto an array of Teflon membrane filters. At the end of each collection, the filters were exchanged in a trailer with temperature and humidity control. The loaded filters were brought back to NIST where the air particulate was brushed off the filter inside a plexiglass glove box. The total amount of air particulate collected for use as the PM2.5 Interim Reference Material (RM) was 21.93 g. This material was placed in a 1 L glass bottle and mixed for 3 h on a bottle roller. The material was then aliquoted into approximately 100 mg portions in amber bottles with Teflon-lined lids. A total of 198 bottles of PM 2.5 Interim RM were prepared. One bottle each of PM 2.5 Interim RM and SRM 1649a (approximately 500 mg) were sent to each of the laboratories participating in Trial II. The instructions and data sheet that accompanied the samples are provided in Appendix A. In the letter accompanying each shipment, each participant was asked to analyze each of three replicate samples and to concurrently analyze the NIST SRM 1649a, Urban Dust. Twelve aliquots of the material were analyzed by instrumental neutron activation analysis for elemental composition. The iron was found to be very high (195 g/kg with a standard deviation of 4 g/kg for the 12 aliquots). [2]

Evaluation of Exercise Results

Establishment of the Assigned Values

The following guidelines were used by the NIST exercise coordinators for the establishment of the exercise "Assigned Values" for these exercises. The laboratory's performance on concurrent reference material analyses was used to determine if that laboratory's results would be included in the calculation of the exercise assigned value for the unknown material for a particular analyte. The results reported for the unknown materials from laboratories that did not report results for the reference materials were not used in these calculations. After the exercise assigned values, standard deviations, and 95 % confidence limits had been calculated, all reported results for the Air Particulate Extract I, Air Particulate I, and PM2.5 Interim RM materials were evaluated relative to these exercise assigned values.

Laboratory data submission: Each participating laboratory was to submit data from three replicate determinations of the unknown materials (Air Particulate Extract I, Air Particulate I, and PM2.5 Interim RM) and were requested to report results of concurrent analyses of NIST SRM 1649a. Laboratories were requested to report these results to three significant figures and to provide brief descriptions of their extraction, cleanup, and analytical procedures.

Determination of laboratory analyte means: For each laboratory, the laboratory analyte mean of the three sample results (S1, S2, and S3) was calculated for each analyte. Non-numerical data were treated as follows: A mean "<value" was used when three "<values" were reported; NA (not analyzed/determined) was used for three reported NAs, etc.; and, if the reported results were of mixed type, e.g., S1 and S2 were numerical values and S3 was reported as "<value", the two similar "types" were used to either determine the mean or to set a non-numerical descriptor.

Determination of assigned values: For a particular analyte, the performance on the reference material was deemed acceptable for the purpose of these exercises if the laboratory result was within 30 % of the upper and lower limits of the confidence interval for analytes listed as certified or reference values in the Certificate of Analysis for SRM 1649a. For each analyte of interest not listed as a certified or reference value in SRM 1649a, no target concentration was used. If a laboratory demonstrated acceptable performance on a particular analyte in the reference material, the laboratory's results for that analyte in the corresponding "unknown" exercise material were then used in the calculation of the analyte's exercise assigned value unless the mean was deemed an "outlier." For evaluation of potential outliers, statistical tests and expert analyst judgement were used after viewing both normal and log plots of the data. This judgement utilized knowledge of potential coeluters based on the laboratory's reported methods.

Reported Results

Laboratories were assigned numerical identification codes in order of receipt of data for Trial I with the exception of NIST-Gaithersburg, which is Laboratory 1 in these exercises, and NIST-Charleston which is Laboratory 13 in these exercises. A laboratory was assigned the same code for each material, including the PM2.5 Interim RM in Trial II. A list of participating laboratories in alphabetical order is given in Appendix G. In this report, the laboratory mean replicate data are shown in Tables 1, 2, and 3 for Air Particulate Extract I, Air Particulate I, and SRM 1649a reported with Trial I, respectively, and in Tables 9 and 10 for PM2.5 Interim RM and SRM 1649a reported with Trial II, respectively. Included in these tables are the exercise assigned values, the standard deviation of the assigned value, and the percent relative standard deviation (% RSD). Notes included by a laboratory with its data are listed in Appendix B. Summaries of the methods used by each laboratory are in Appendix C.

In Appendices D (Air Particulate Extract I), E (Air Particulate I), and F (PM2.5 Interim RM), charts of the mean reported numerical results by laboratory for **each analyte** for which more than two laboratories reported data are shown for the exercise material and the corresponding reference material.

Performance Scores

The exercise coordinators recognize that different programs have different data quality needs. The acceptability of the results submitted by a particular laboratory will be decided by the individual program(s) for which the particular laboratory provides data. Typically, the program will use these exercise results in conjunction with the laboratory's performance in the analysis of certified reference materials and/or control materials, and of other quality assurance samples. These exercise results are

shown in a number of ways in this report to facilitate their use by these programs in their acceptability assessments.

IUPAC guidelines [3] describe the use of z-scores and p-scores for assessment of accuracy and precision in intercomparison exercises such as those described in this report. These indices assess the difference between the result of the laboratory and the exercise assigned value and can be used, with caution, to compare performance on different analytes and on different materials.

Accuracy Assessment (z-score)

The z-score is a bias estimate divided by a performance criterion so that $z = (x - X)/\sigma$ where x is the individual laboratory result, X is the "Exercise Assigned Value," and σ is the target value for standard deviation. As described in the IUPAC guidelines, the choice of σ is dependent upon data quality objectives of a particular program. It can be "fixed" and arrived at by perception, prescription, or reference to validated methodology (e.g., $\sigma = 0.025$ X, X is the analyte concentration), or it can be an estimate of the actual variation (e.g., the calculated standard deviation, s, from the exercise data). The "fixed" performance criterion is more useful in the comparison of a laboratory's performance on different materials while the use of the actual variation may be more useful within a given exercise, for example, if the determination of a particular analyte is more problematic than usual.

We have calculated and reported z-scores using both approaches for each analyte for each laboratory. At a previous workshop, it was decided to use "25 % of the exercise assigned value" as the fixed target value for standard deviation for this program, at least for the initial exercises. We also calculated z-scores based on "one assigned-value standard deviation, s." The z-scores calculated for these exercises can thus be interpreted as shown in the following examples:

z-score (25 % X): +1 -2	laboratory result is 25 % higher than the assigned value laboratory result is 50 % lower than the assigned value
z-score (s):	
+1	laboratory result is one "exercise standard deviation" higher than the assigned value
-2	laboratory result is "two exercise standard deviations" lower than the assigned value

From a scientific point of view, IUPAC does not recommend the classification of z-scores but allows that it is possible to classify scores, e.g.:

$ z \leq 2$	Satisfactory
2 < z < 3	Questionable
ız ı≥ 3	Unsatisfactory

Tables 4 and 5 show the z-scores using 25 % and s, respectively, for the Air Particulate Extract I, Tables 6 and 7 show the z-scores using 25 % and s, respectively, for the Air Particulate I, and Tables 11 and 12 show the z-scores using 25 % and s, respectively, for the PM2.5 Interim RM.

Precision Assessment (p-score)

The p-score is defined as an individual laboratory's coefficient of variation (relative standard deviation for three measurements) divided by a target coefficient of variation (CV). Participating laboratories analyzed the three replicate samples for an exercise with the same sample set, i.e., one set of samples with the same blank, calibration curve, etc. applicable for each. Since the repeatability for replicates within a set is generally better than for replicates in different sets, this does not result in data that are very useful for precision (repeatability) assessment. For the calculation of p-scores for this program, the current target CV for the three replicates is 15 % so a p-score of 1 indicates that the laboratory's CV for the three subsamples was 15 %. Table 8 shows the calculated p-scores for each laboratory for each reported analyte for Trial I, and Table 13 shows the calculated p-scores for each laboratory for each reported analyte in Trial II.

Discussion

Trial Results

Laboratories were requested to quantify a wide variety of analytes in this study (See Table 1 in Appendix A). Twenty-three laboratories submitted data for Trial I, nine of those laboratories after the original meeting in October 2001, with the most extensive data set for the PAHs. The nine laboratories (identified as 15 through 23) reporting after the October 2001 meeting were not requested to report data for the Air Particulate Extract I, although one laboratory (16) did report data for two nitrated-PAHs in Extract I. Laboratories were requested to report their results in ng/g extract for Air Particulate Extract I and in ng/g particulate matter for Air Particulate I and SRM 1649a. Laboratories 2, 3, 4, 5, 6, 7, 8, 9, 11, 12, and 14 used a density to convert their results to ng/g extract for Air Particulate Extract I. The densities used ranged from 1.33 g/mL to 1.36 g/mL except for laboratory 12 which used the density of acetonitrile, 0.786 g/mL. The exercise coordinator converted their data using a density of 1.33 g/mL to make the data comparable to the other results. Laboratory 6 reported their data in terms of 0.1 g of particulate so the exercise coordinator converted their data by multiplying by 10. Laboratory 5 reported their data in terms of ng/mg so the exercise coordinator converted their data by multiplying by 1000. Laboratory 14 reported their data for the extract in terms of µg/mL and in terms of µg/g for the particulate and SRM 1649a in terms of µg/g. The exercise coordinator used a density of 1.33 g/mL to convert the extract concentration on a mass per volume basis to a per gram basis and multiplied all the data by 1000 to convert to ng/g. No other changes were made by the exercise coordinator for the Air Particulate I or SRM 1649a data.

The agreement among the laboratories is similar for both Particulate I and Extract I; therefore, only a particulate sample will be used in future exercises. For Extract I, 78 % of the PAH data are within 25 % of the assigned value (Table 4) while for Particulate I, 74 % of the PAH data are within 25 % of the assigned value (Table 6). With three or fewer laboratories reporting data for the other compounds, z-scores were not calculated. The precision data are presented in Table 8. Since the laboratories, in general, ran the samples in one batch the p-scores only indicate a within-batch

precision, which is generally better than an inter-batch precision.

Laboratories were requested to quantify a similar set of analytes in Trial II as in Trial I (See Appendix A for the list). Eighteen laboratories submitted data. Because laboratories were required to submit data for the particulate sample used in Trial I prior to receiving the samples for Trial II, the assigned laboratory numbers for the two exercises are the same. No changes were made by the exercise coordinator to the data submitted.

The z-scores and p-scores for both trials are summarized by laboratory in Table 14 by laboratory along with the number of compounds measured by each laboratory. Overall, there were 70 % of the z-scores (25 %) that were \leq 1 for the Air Particulate Extract I, 65 % for the Air Particulate I, and 47 % for the PM2.5 Interim RM. The largest discrepancies among laboratories were for those compound classes for which only a limited number of laboratories reported results. In general, the p-scores tracked from the "unknown" samples to SRM 1649a. In other words, the laboratories that had a high percentage of p-scores \geq 3 for the "unknown" samples also tended to have a high percentage of p-scores \geq 3 for SRM 1649a.

In Table 15, the results for SRM 1649a from Trial I and Trial II are compared to the certified and reference concentrations for the PAHs, to values assigned for the nitrated-PAHs based on the data from Trials I and II along with data from Bamford and coworkers [7], and to each other for the remaining compound classes. The agreement for the PAHs is relatively good. For the other compound classes, however, there are high standard deviations within each trial and large differences between the trials as high as 100 %. To help address these differences, calibration solution SRMs are under development for a number of the compound classes based on a priority list established by the working group. The first of these calibration solutions, i.e. aliphatic hydrocarbons, will be available for the third trial set that began in Summer 2004.

Intercomparison exercises provide an important mechanism for assessing the comparability, accuracy, and reproducibility of results from the participating laboratories. Exercise materials similar in matrix, form, and analyte concentration to typical samples routinely analyzed by the laboratories are most useful for demonstrating the level of comparability and for revealing potential problem areas. Minimizing the between-laboratory bias so that the analytical variability is significantly less than the sampling variability should be an achievable goal.

Problems and Potential Solutions for Improving Quantification of Target Analytes

PAHs: Nineteen laboratories returned data for selected PAHs in Trial I while fourteen laboratories returned data for selected PAHs in Trial II. This is the largest data set received for any of the analyte groups. PAH analysis is fairly well-established with a number of commercial sources for neat chemicals of stated purity as well as a number of commercial sources of reliable calibration solutions. In addition, SRMs exist for PAHs in solution as well as natural matrices such as air particulate matter and sediment. Some problems were noted for individual analytes, however. There was a wide variation in the data received for naphthalene, ranging from 100 ng/g to 7400 ng/g in the Air Particulate I sample and from 40 ng/g to 2500 ng/g in the PM2.5 Interim RM sample. Naphthalene is a volatile compound, so it is important to have an internal standard/surrogate added

to the samples that will mimic the behavior of naphthalene during the sample preparation steps, preferably carbon-13 or deuterium labeled naphthalene. The majority of the laboratories reporting data for chrysene neglected to note a coelution with triphenylene. These isomers coelute on most gas chromatographic phases, but they can be partially separated using a 60 m nonpolar column (5% mole fraction) phenyl methylpolysiloxane phase) and almost baseline separated using a 60 m proprietary phase (DB-XLB), both with a slow temperature program. [4] A number of laboratories also misidentified the benzofluoranthene isomers. There are three isomers that elute close to one another, the b, j, and k isomers. Typically, benzo[b]fluoranthene and benzo[j]fluoranthene coelute on the nonpolar columns, including the DB-XLB mentioned above. A moderately polar 50% phenyl methylpolysilxoane phase, however, will separate the isomers, changing the elution order for the benzo[j] and benzo[k]fluoranthenes. [4] A combined concentration for dibenz[a,h]anthracene and dibenz[a,c]anthracene was also commonly reported by the participants dibenz[a,h]anthracene. These two isomers coelute on the non-polar phases but can be separated on the moderately polar phases. There were only very limited data (five sets or less) received for some of the potentially more interesting PAHs, including the methylphenanthrenes, retene, coronene, and dibenzo[a,e]pyrene. As calibration solutions become available for these additional compounds, it is hoped that more laboratories will include them in their analyses.

Nitrated-PAHs: Only three laboratories returned data for the nitrated-PAHs in Trial I (one of those laboratories returned two data sets), and four laboratories returned data for the nitrated-PAHs in Trial II. Except for 6-nitrobenzo[a]pyrene, the agreement was good with the laboratory means agreeing to within 15% of each other for all of the nitrated-PAHs targeted except 7-nitrobenz[a]anthracene in the PM2.5 Interim RM (relative standard deviation for the laboratory means of 25%). Two laboratories returned data for 6-nitrobenzo[a]pyrene. For Air Particulate I and SRM 1649a, laboratory 1 reported values lower than their detection limit while laboratory 6 reported two sets of data, the first one more than an order of magnitude higher in concentration than the second value. For the PM 2.5 Interim RM used in Trial II, however, laboratory 1 reported a mean value of 312 ng/g while laboratory 6 reported a mean value of 24.3 ng/g. Hopefully, additional laboratories will return data for the nitrated-PAHs in future intercomparison exercises.

Alkanes and alkenes: Ten and eleven laboratories, respectively, returned data for selected alkanes in Trials I and II. No data sets were returned for the alkenes. It should be noted that prior to starting Trial II, the target analyte list for the alkanes was increased to include odd chain length alkanes from C21 through C31. Only even chain length alkanes were included in the Trial I target analyte list. For both trials, there was a large spread in the data reported for the alkanes with relative standard deviations of the consensus means ranging from 30 % for *n*-C20 in Air Particulate 1 to 130% for *n*-C28 in PM2.5 Interim RM. This spread in the alkane data is probably due to the non-specificity of the mass spectral ion/ions that are used to monitor alkanes. The alkanes tend to fragment in the mass spectrometer resulting in low relative molecular mass (<100) fragments that are commonly used to identify and quantify the alkanes. Other substituted alkanes, however, may fragment to a similar pattern resulting in misidentification. In addition, alkanes are commonly found in laboratory blanks so overestimation of the alkane concentrations is a possibility if blanks are not monitored.

Hopanes, cholestanes, and sterols: As with the alkanes, the target analyte list for the hopanes, cholestanes, and sterols was expanded from 13 to 15 analytes between Trial I and Trial II. Seven

laboratories (not the same seven in both trials) reported data for this class of compounds in the two trials. The spread of the data for the two trials is from 14 % relative standard deviation for 17a(H),21b(H)-29-norhopane in the Air Particulate I sample to 75 % for 17a(H),21b(H)-29-hopane in the PM2.5 Interim RM. As for the alkanes, there is one mass spectral fragment ion that is typically used to quantify the hopanes (191) and two that are typically used to quantify the steranes (217 and 218). Due to the lack of available standards, the correct identification of the hopanes and steranes is an issue.

Carbonyls and acids: Seven laboratories returned data for selected carbonyls and acids in Trial I and four laboratories in Trial II. For a majority of the analytes, only one or two laboratories returned data so standard deviations for consensus values could only be calculated for four compounds in Trial I and two compounds in Trial II. For those compounds, however, the relative standard deviations of the consensus values were all > 50 %. Due to the polarity of these compounds, there are additional analytical challenges, both in extraction and isolation from the matrix. Many of these compounds need to be derivatized prior to gas chromatographic analysis.

Phenols and sugars: Only one laboratory reported values (all less than their detection limits) for the phenols in Air Particulate I while for the PM2.5 Interim RM, one laboratory reported data for isoeugenol (4129 ng/g), and another laboratory reported data for all of the phenols on the list (with isoeugenol at <159 ng/g). The only sugar on the target analyte list currently is levoglucosan. For Air Particulate I, one laboratory reported a value of 10427 ng/g while another laboratory reported < 2000000 ng/g. For the PM2.5 Interim RM, three laboratories reported data for levoglucosan, but the relative standard deviation of the consensus value is large (83 %). These polar compounds present challenges similar to those of the carbonyls and acids.

PM2.5 Interim RM

The particulate matter used in Trial II is intended for use as a control material for laboratories conducting ongoing PM2.5 analyses until a larger collection of PM2.5 is completed and processed as an SRM. To this end, the data from Trial II were used to value assign concentrations for the majority of the PAHs and nitrated-PAHs as shown in Table 16. The data used in the value assignment included the values from the NIST laboratories (designated as laboratory 1 and laboratory 13) as single sets of data along with the assigned values from the interlaboratory study (excluding the NIST values) as an additional data set. As discussed above for the remaining compounds, either very few laboratories returned data, or there was a large spread in the data received. There were two compounds with relative uncertainties of the assigned values of less than 1 %: indeno[1,2,3cd pyrene and 2-nitrofluoranthene. This small uncertainty is probably not realistic and would be expanded if the material were going to become an SRM. At the other end of the spectrum, there were six compounds with relative uncertainties of the assigned values greater than 30 %: naphthalene, 1-methylphenanthrene, 3-methylphenanthrene, dibenz[a,h]anthracene, coronene, and 7nitrobenz[a]anthracene. The interlaboratory data for naphthalene tended to be scattered and lower than the data obtained in the NIST analyses. The 1-methylphenanthrene and 3-methylphenanthrene values are a combination of three NIST values. For both of the compounds, two of the values agreed well with each other while the third was 50 % to 75 % higher than the other two values. For dibenz[a,h]anthracene, the interlaboratory data were sparse due to reported coelutions with dibenz[a,c]anthracene. The laboratories not reporting coelutions tended to be 60 % lower than the values determined at NIST. For the 7-nitrobenz[a]anthracene, there were only three values reported, not agreeing with each other. The assigned values will be useful for those laboratories who want to use the PM2.5 Interim RM as a control material. As more laboratories generate data, the assigned values will be revised, and additional analytes will be value assigned.

Conclusions and Recommendations

Comparing the data received for the Air Particulate Extract and Air Particulate I, the extraction of samples was not a point of major differences among the laboratories so extracts will not be included for future studies. For the PAHs and nitrated-PAHs, the agreement among the laboratories submitting data was generally good except for those compounds with known coelutions. Neat chemicals of known purity and well-characterized solutions are available for the PAHs. For the nitrated-PAHs, only a limited number of laboratories experienced in this area submitted data. The data received for the remaining classes of compounds showed a wide variation. This variation is probably due to a number of factors, including modifications needed in the extraction and isolation methods used for more polar compounds, mass spectral fragmentation, and chromatographic interferences. For a number of these compounds, there is also a lack of commercially available neat compounds or solutions of the compounds of known purity. An effort is currently underway at NIST to produce calibration solution SRMs for a number of the compounds and labeled analogues. As they become available, these calibration solutions will be provided to the participants. Analytical methods are also being discussed at the working group meetings. As more calibration solutions become available and as methods improve, more laboratories will submit data for the additional compound classes.

Acknowledgments

The time and efforts of the analysts and management of the participating laboratories and the assistance of the NIST Standard Reference Materials Program with the procurement and preparation of the exercise materials are gratefully acknowledged.

Disclaimer

Certain commercial equipment, instruments, or materials are identified in this report to specify adequately the experimental procedure. Such identification does not imply recommendation or endorsement by the National Institute of Standards and Technology, nor does it imply that the materials or equipment identified are the best available for the purpose.

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		36	1.3266	1.3255	1.33	mL DCA	.326	1.3255	1.28		1.36	0.786		Y Y	¥		₹ Z	the say or a same or a		
PAHS		1	-	_		is 0.1 g part.					a C	acetonitrile		100000						
				<u> </u>	divide by	divide by					ي ر	to 1.33	ت ر	to 1.33				Exercise Assigned	ssigned	
Laboratory No.	-	2	3	4		9	7	8	6	10		12	13	14	15	91	17	Assigned	5	%RSD
-	9.99	NA	54.0	45.3	78.9	H	62.1	51.6	112	71.7	AN	351	53.0	Y X	AN	Y Y	Y.	59.4	10.3	5.71
	12.0	Y Y	5.93	10.06	14.5		21.7	15.3	15.0	9.11	35.6	31.2	18.6	Y Z	¥:	¥ :	AN S	21.2	8.2	38.0
phenanthrene	286	ΑN	319	269	353	335	307	275	267	321	262	381	340	381	¥ :	Y S	Y S	300	40.4	34.1
anthracene	26.4	Υ _Z	36.8	45	43.6	28.7	48.9	49.5	57	51.9	37.8	62.2	28.2	ž :	¥ ×	¥ 4	X X	33.2	5.5	15.6
1-methylphenanthrene	31.2	Y Y	¥	ΑN	ν Σ	¥.	Y :	¥.	¥:	Y S	47.5	40.8	29.3	2 2	¥ 4	¥ 2	2 2	56.7	13.5	20.3
2-methylphenanthrene	61.6	Y.	¥	Y Y	Y Z	¥.	Y :	¥ :	¥ :	¥ 5	42.6	02.0	2 2	2 2	2 2	2 2	4	43.3	not calc.	
	43.9	× ×	¥.	¥:	¥ :	¥ :	¥ S	¥ ×	Y X	¥ 2	47.0 NA	2 2	2 2	Z 42	Z Z	Z Z	₹ ×	29.1		
	29.1	V :	¥ :	¥ S	V S	¥ 2	X 2	£ 2	2 2	2 2	28.2	Y Y	Y Z	₹ Z	×	¥	¥	28.2		
9+4-methylphenanthrene	¥.	¥:	Y :	¥ :	۷ <u>۲</u>	NA C	2 2	£ 5	2 2	2 2	NA NA	106	¥ 2	¥ Z	¥	¥	¥	No assigned value	d value	
-	AN S	ď.	¥:	¥ :	X X	7.2	2 2	2 2	2 2	2 2	4 2	2 A	¥ Z	¥	₹ Z	¥	¥	22.4		
ta(def)phenanthrene	22.4	¥ ×	A S	A S	NA 829	7 Y	2005	510	39.1	468	442	682	509	596	¥	¥	4×	200	85	17
thene	438	X X	432	327	300	397	404	342	321	563	369	469	398	494	Α×	¥.	¥	398	52	13
pyrette honzolaki Idnoranthene	55.7	4 2	AN	A N	129	78.7	¥ ×	¥	Υ X	AN	¥.	¥ X	¥	Ϋ́	ΑN	¥	ΑN	72.2	9.2	12.7
	NA N	A Z	A Z	¥	Y Z	A Z	A N	¥	ΑN	Ą	¥.	Α×	¥	ΑN	Ϋ́	Ā	A	No assigned value	d value	
benzla lanthracene	145	Y X	155	143	¥	172	298	210	265	184	217	197	166	A A	ΑĀ	¥	Ą	176	59	16
chrysene	208	¥	229	277	Ϋ́	246	333	315	299	318	Ą	Ϋ́	Ą	ΝA	Ą	ΑĀ	¥	227	27	12
cnc	84.6	¥ Z	¥	Α×	ΑN	111	ΑN	¥ X	Ϋ́	Ϋ́	A A	ΑĀ	¥	ΑN	Ϋ́	Ϋ́	¥ Y	97.7	not calc.	
phenylene	4 _A	¥	Y.	¥	27.1	Ϋ́	ΑĀ	ΑA	ΑA	Ą	380	470	350	ΑN	٧	¥	Y.	367	85	22
benzo[b]fluoranthene	431	427	395	380	278	683	705	ΑĀ	ΑN	658	Ϋ́	ΑA	448	Ϋ́	¥	¥	Y :	436	138	87
benzo[/]fluoranthene	86.4	Α	ΑN	¥	39.0	ΑN	A A	¥ V	¥	¥	¥.	Y Y	108	¥	¥ :	¥:	Y S	47.4	not calc.	20
benzo[k]fluoranthene	108	127	131	78.0	¥	165	201	¥	Y Y	193	¥	¥.	135	¥ :	¥ :	¥ :	1	+71	67	5
benzo[b+j+k]fluoranthene	Y Y	ν V	ΑN	¥	Ϋ́	Y Y	¥ :	¥ S	2913	¥:	785	819	Y S	¥ 5	¥ ×	¥ \$	4 2	No assigned value	d value	
benzo[b+k]fluoranthene	₹ Z	¥	¥ :	Υ Z	¥:	V :	Y :	919	¥ S	۲ <u>۲</u>	¥ 2	¥ 2	£ 2	753	<u> </u>	2 2	Z Z	No assigned value	d value	
benzo[b+j]Huoranthene	V V	¥ :	¥.	YZ:	¥ S	AN C	¥ :	Y S	¥ 200	2 2	2 2	C C	240	3 4	Z A	42	AN	252	47	19
benzole Ipyrene	195	¥.	Y S	AN S	310	315	A P	178	150	121	243	220	222	223	Z Z	Y Y	Y X	201	42	21
penzola jpyrene	146	0/1	20.7	001	50.7	49.0	NA NA	39.0	36	Y X	60.2	54.0	38.1	Y Y	¥	AN	¥	45.5	9.1	20.1
indeno[1,2,3-cd]pyrene	186	256	194	201	309	279	290	304	86	235	316	260	261	341	ΑN	AA	ΑN	253	29	27
benzo[ghi]perylene	293	283	279	214	408	374	434	315	225	306	348	278	325	422	ΑN	ΑĀ	ΑN	323	71	22
dibenz[a.h]anthracene	19.2	19.3	29.4	25.1	ΑN	45.0	135	38.9	9/	49.9	Ϋ́	¥	24.8	¥	ΑN	¥	¥	23.2	4.9	7.12
dibenz[a.c]anthracene	13.4	Υ	ΑĀ	ΑN	¥	Ϋ́	Y Y	¥.	¥	¥.	ΨZ.	¥:	12.5	¥.	¥ S	¥	Y S	12.9	not calc.	
dibenz[a,h+a,c+a,j]anthracene	¥:	¥:	₹:	¥:	¥ :	¥ S	Y S	¥ 2	Ψ S	¥ 2	40.4 NA	30.05	¥ 2	2 2	Z Z	Z Z	Q A	No assigned value	d value	
dibenzja,h+a,c janihracene	22 S	¥ 2	X X	X 4	Y Y	27.3	Y Y	Z Z	Z Z	Z Z	¥ Z	S X	Z Z	Z Z	¥	A N	¥ Z	24.9	not calc.	
coronene	¥	¥	¥	194	¥	Ą	Y'N	¥	Ą	¥.	628	316	¥	ΑÄ	٧×	ΑN	ΑN	No assigned value	d value	
dibenzo[a,e]pyrene	NA	ΑN	AN	Ϋ́	ΑN	ΑĀ	AN A	NA	NA	ΑN	54.6	ΨN	ΑN	ΑN	AA	¥	ΑN	No assigned value	d value	
When Ball anal Vers																		Exercise Assigned	ssigned	
Laboratory No.	-	2	6	4	5	9	7	8	6	10	1	12	13	14	15	16	17	Assigned	S	%RSD
9-nitroanthracene	2.86	¥	AN	Y.	٧×	2.47	NA A	NA	A A	ΑN	A A	A A	A A	NA	NA	ΑN	AN	2.66	not calc.	
1-nitropyrene	6.14	¥	¥	4 Z	Ϋ́	29.9	ΑN	¥.	Ϋ́	ΑĀ	ΑN	NA	A A	¥	ΑN	4.42	AN	5.75	1.18	
2-nitrofluoranthene	23.5	Ą	Ϋ́	ΑN	ΝA	28.4	ΑN	A A	ΑN	۷ Z	¥ V	¥ Y	¥	¥	¥	19.3	¥.	23.8	4.6	
3-nitrofluoranthene	<u>^</u>	¥.	¥.	₹ Z	AN.	0.128	¥	Y.	¥.	¥	¥ :	¥:	¥	¥:	AN :	Y S	Y S	0.128	olen ten	
7-nitrobenz[a]anthracene	2.14	¥:	¥ :	¥.	¥ :	2.51	¥ S	¥ S	¥ 2	ď Š	¥ 2	¥ 2	Y Z	A A	۲ م ۲ م	¥ 2	Y Y	0.392	101 201	
6-nitrobenzia lavrene	7	2 2	2 2	2 2	2 2	14.2	Q 2	Q 2	Z 4	Y A	Z AZ	A Z	Y Y	Y Z	Y Z	× ×	AN	14.2		
באון כאון כאון באון באונים	-					3.6														

Alkanes and Alkenes																		Exercise Assigned	2016	
Laboratory No.	-	2	3	4	5	9	7	8	6	10	11	12	13	14	15	16	17	Assigned s		%RSD
n-C20	AN	AN	NA	80.5	<1E2	NA	AN	105	AN	96.9	AN	Ą	Ϋ́	Ą	¥	A N	Y.	92.6	not calc.	18
n-C22	¥	AN	Ą.	¥	258	ΑN	ΑN	348	Ą	514	389	A A	Ą Z	₹ Z	Ϋ́	¥ Y	¥.	332	و/	3 3
n-C24	¥	AN	Ą	1602	2751	Ą	Ą	1707	A A	3648	3522	Ž	A A	2343.0	¥	A	Y Y	2385	5	3
n-C26	Y.	ΑΝ	Ϋ́	A'A	10590	ΑN	ΑN	5353	¥.	10039	7361	NA	Y Y	6524.0	NA	ΑN	¥.	7457	2245	8
2.7.3	AN	Ą	Ą	2784	6138	¥	A	2917	N A	5817	4445	Y Y	AN	3256.0	¥	AN	Y N	3908	1408	36
- 030	4N	AN	AN	1167	4002	ĄZ	AN	1600	4 X	4192	3294	A A	ΑN	1759.0	¥	AN	AN	2364	1218	52
C30	Z Z	AN	4N	651	3530	Ψ.	AN	973	AN	1626	AN	AN	ΑN	920.0	Ϋ́	AN	NA	848	172	20
n-C32	2 4	NIA.	S V	ΔN	<1E2	AN	AN	AN	A Z	838.6	ΑN	A Z	ΥN	¥	Ą	AN	ΑN	No assigned value	i value	
n-C36	<u> </u>	<u> </u>	5	2 4	1 4	VIA.	NA NA	4N	A N	4 N	d'N	Y Z	AN N	4X	¥	¥	AZ AZ	No assigned value	l value	L
n-C40	¥ :	¥2	ž s	Z 2	2 2	2 2	2 2	42	A N	AN	4N	AN	AN	AN N	Y.	¥	Y.	No assigned value	i value	
n-C44	¥	¥.	¥Z	¥ S	¥ \$	X <	Z < Z	2 4	2 4	42	AN AN	AN	4 Z	A N	¥	AN	AN	No assigned value	1 value	
squalene	Y S	A A	Y Y	¥ < 4	X < 2	Z 4	2	42	Z AN	A N	Y Y	ź	¥ Z	X X	YZ.	AN A	ž	No assigned value	i value	
I -octadecene	NA	VA.	Y.	Z.	2	5														_
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Hopanes, Cholestanes, Sterois	-	2	c	4	C	9	7	00	6	10	11	12	13	14	15	16	17	Assigned s		%RSD
23 20 30 trianglement	AIA	AN	NIA.	241	366	AN	AN	A'N	AN	AN	Α×	79.9	ΑZ	ΑN	AN	ΑN	AN	229	not calc.	
22, 29, 30-distrofflopane	2 2	Y A	Z Z	¥ ×	1663	₹ Z	¥	¥2	¥	4×	847	A'N	Ą	4×	ž	NA	NA	1255	not calc.	
(75(H) 21b(H)-29-honane	Z Z	AN	Ą	1549	2802	4×	AN	ΑΝ	¥	¥	AN	A'N	ΑN	ΑN	Ϋ́	AA	NA	No assigned value	i value	
208-Setto 14a(f) (2NH-chalestare	4 Z	AN	¥	A.	563	AN	¥	4×	A'A	Α̈́	ΑĀ	A'N	Ą	AM	ΑN	NA	AN	No assigned value	value	
A A B B. 20 R. C. St. merityk: bollestane	A N	NA N	ΑN	236	242	Ą	¥Z	¥	A'A	A'A	Ą	ΑN	ΑN	AN	ΑN	AA	NA.	239	not calc.	
22S-17a(H), 21b(H)-30-homohopane	AN	AN	AN	NA	946	AN	AN	ΝA	ΑN	ΝA	566	335	ΝA	AN	ΑN	AN	¥.	516	374	5
22R-17a(H), 21b(H)-30-homobopane	ΑN	AN	ΑN	A A	922	NA	AA	ΑN	A	Ą	203	229	¥	¥	ž	AA	¥.	403	324	3 80
22S-17a(H), 21b(H)-30-bishomohopane	ΑN	ΑN	NA	NA	571	ΑN	Ą	¥	A A	¥.	162	178	¥.	Y :	Z :	¥.	Y S	304	757	0 9
22R-17a(H), 21b(H)-30-bishomohopane	¥	AN	¥.	¥.	442	¥.	₹.	¥ S	¥ :	¥ S	120	201	Y S	¥ Z	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	¥ 2	Y AN	No assigned value	value	3
pristane	¥.	Y.	Y.	¥.	¥.	Ž.	Y.	707	X .	¥ 4	4	2 2	2 2	2 2	VIV	AIN	AN	No assigned value	- value	
phytane	¥ S	Y S	Y S	Z Z	Z Z	Y Z	Z Z	7.77 NIA	4 4	Z Z	Z AZ	Z Z	Y AN	Y A	Z Z	₹ Z	Ž	No assigned value	value	
cholesterol	Z Z	Z A	Y Y	326	Y AN	Z Z	Y A	Z Z	Y Y	¥	Y Y	AN	AN	A Z	Y.	AN	AN	No assigned value	value	
Stigitiasteroi	2	<u> </u>		070																
Carbonyls and Acids																		Exercise Assigned	signed	
Laboratory No.	-	2	3	4	2	9	7	8	6	10	-1	12	13	14	15	16	17	Assigned		%KSD
benzanthrone	NA	ΑN	AA	NA	192	AA	AA	ΑŅ	NA	ΑN	254	<40	¥ Z	ΑN	AA	¥	¥.	223	not calc.	
9-fluorenone	Ϋ́	ΑN	¥	93.0	101	¥	¥	¥	¥.	¥:	¥.	<40	¥:	¥:	Y S	¥ S	ž s	91.2	TOLCAR.	
anthroquinone	ΑN	AN	¥.	121	¥	¥	¥.	Y.	¥.	¥:	A S	Y .	Y S	Y S	Y S	¥ S	2 2	No assigned value	value	
benz[a]anthracene-7, 12-dione	¥	¥.	¥	¥.	206	¥:	Ž.	NA:	¥:	Y S	502	Y S	Z S	Y S	¥ 2	¥ 4	2 2	No assigned value	Value	
G-nonanoic lactone	¥ S	Y S	¥ S	¥ ×	¥ ×	¥ ×	¥ ×	¥	¥ 2	¥ 2	Z Z	₹ Z	2 2	Z Z	Z Z	Y Y	₹ 2	No assigned value	value	
G-decanolactone	¥ ×	2 2	¥ ×	2 2	2 2	Z V	Z AZ	2 2	Z AZ	AN	AN AN	AN AN	ž Ž	₹ Z	ž	¥	¥	No assigned value	value	
saringaldehyde	Z Z	Z Z	Y A	Y AN	NA N	Y Y	Y Y	¥	ž	¥	AN	Ą	Ą	¥.	Y.	A	A V	No assigned value	1 value	
pimaric acid	¥	ž	¥	AN	¥	¥	¥	Ϋ́	AN	AN	AN	AN	AN	¥.	Y V	AN	Y Y	No assigned value	i value	
isopimaric acid	AA	¥	¥	AN	¥	Y.	A	AA	¥	ž	Ā	¥	Ą	NA	AN	NA	¥	No assigned value	l value	
pinic acid	A A	AN	ΑN	AN	Ϋ́	NA	AA	ΑN	Ą	AA	AA	NA	AN	Ϋ́	¥	Ą	ž	No assigned value	value	
pinonic acid	¥	Ϋ́	ΑN	NA	NA	NA	AA	Ϋ́	¥	Y Y	¥	NA	¥	ΨZ Z	¥	Ϋ́	¥	No assigned value	value	
hexadecanoic acid	AA	ΑN	AN	NA	ΑĀ	A	43793	AN	¥	¥	AN	¥	AN	¥	¥.	¥	¥:	No assigned value	value	
norpinic acid	A A	ΥN	Ϋ́	AN	¥	₹	¥.	AN	¥.	¥.	¥.	₹	¥.	¥ :	₹ :	Y :	¥ S	No assigned value	value	
norpinonic acid	¥:	¥.	¥ :	¥ :	¥ :	¥ S	A S	A S	Y Y	4 S	A S	AZ S	¥ Z	Z Z	X X	X X	¥ 4	No assigned value	l value	
nopinone	Z .	Z.	Y :	¥.	Y :	Y .	Y :	¥.	¥ :	2	2	2 3	2	2		2 4	C 4	oulou bongico ol		
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				plicates an	IG OXOICIS	0 83319110	0 10003									
ng/g (reported as if three fig	ures we	re signit	icant)													
AHs							-									
Laboratory No.																
received after initial data review)	1	2	3	4	5	6	6a°	7	8	9	10	11	12	13	14	15°
aphthalene	866	NA	198	9042	880	NA	NA	772	214	other	366	NA	7405	799	NA	7214
uorene	156	NA	36.3	566	1330	149	131	195	145	143	213	271	225	237	NA	258
henanthrene	3997	NA	3029	6484	3491	3774	3500	4120	3263	3407	4087	3263	4442	4874	3990	4667
	412		327	1021	526	324	347	704	473							
nthracene		NA							-	893	593	535	416	480	NA	422
-methylphenanthrene	343	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	379	392	420	NA	NA
-methylphenanthrene	647	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	669	777	NA	NA	NA
-methylphenanthrene	453	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	501	NA	NA	NA	NA
-methylphenanthrene	299	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
+4-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	346	NA		NA	
														NA		NA
etene	NA	NA	NA	NA	NA	236	126	NA	NA	NA	NA	NA	147	NA	NA	NA
11-cyclopenta(def)phenanthrene	289	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
luoranthene	6110	NA	5112	7391	5979	5638	5933	6537	7030	5353	5977	5431	6976	7156	6100	6203
pyrene	5066	NA	4527	5662	5090	4396	5080	5303	4777	4463	6788	4625	5312	5585	5080	4910
enzo[ghi]fluoranthene	840	NA	NA	NA	1378	942	1064	NA	NA							
yelopenta[cd]pyrene	NA.	NA	NA	NA	NA	NA	NA NA	NA NA	NA NA	NA	NA	NA NA	NA	NA		
															NA	NA
enz[a]anthracene	2097	NA	1722	2677	NA	1970	2234	3083	2880	4240	2351	2051	2308	2376	NA	1930
hrysene	2943	NA	2608	4712	NA	2898	3155	4593	4373	4573	4510	NA	NA	NA	NA	430
riphenylene	1184	NA	NA	NA	NA	982	1442	NA	NA							
chrysene+triphenylene	NA	NA	NA	NA	3335	NA	NA	NA	NA	NA	NA	3574	5528	4817	NA	NA
penzo[b]fluoranthene	5835	5833	4032	5990	3043	7456	6015	7823	NA	NA	7550	NA	NA	6600	NA	6680
penzo[j]fluoranthene	1158	NA NA	NA NA	NA NA	362	NA NA	NA.	NA NA	NA	NA	NA NA	NA NA		1658		
													NA		NA	NA
penzo[k]fluoranthene	1792	1683	1600	1147	NA	1777	1739	3043	NA	NA	2501	NA	NA	2093	NA	1900
penzo[b+j+k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	10667	NA	11047	10445	NA	NA	NA
penzo[b+k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	10433	NA	NA	NA	NA	NA	NA	NA
penzo[b+j]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA .	7290	NA
penzo[e]pyrene	2860	NA	NA	NA.	2824	3399	3221	NA	2943	4330	NA	3862	3369	3484	NA NA	3527
penzo[a]pyrene	2492	2347	1948	4329	1966	2747	2536	3060	2607	3360	1589	3360	2499	3212	2270	222
perylene	617	NA	NA	NA	467	633	615	NA	569	832	NA	768	501	588	NA	644
indeno[1,2,3-cd]pyrene	2723	3060	2319	3439	2256	3090	3582	2930	4127	2240	3062	2695	2627	3980	3160	321
benzo[ghi]perylene	4305	3500	2709	3567	2448	4038	4265	4527	4373	5617	4052	3163	4543	4806	3780	361
dibenz[a, h]anthracene	289	275	306	NA	NA	527	341	631	549	1847	742	NA	NA	355	NA	479
		-		-												
dibenz[a,c]anthracene	201	NA	NA	NA	NA	NA	NA.	NA	NA	NA	NA	NA	NA	209	NA	NA
dibenz $[a, h+a, c+a, j]$ anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	787	NA	NA	NA	NA
dibenz[a,h+a,e]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	211	NA	NA	NA
benzo[b]ehrysene	287	NA	NA	NA	NA	329	275	NA_	NA	NA_	NA_	NA	NA	NA	NA	NA
coronene	NA	NA_	NA	3187	NA	NA	NA	NA	NA	NA	NA	5392	4718	NA	NA	NA
dibenzo[a,e]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	593	NA	NA	NA	NA
Nitro-PAH ANALYSES		-														-
				-										-		
Laboratory No.	-			-				-			10		40	40		450
* received after initial data review)	1	2	3	4	5	6	6a*	7	8	9	10	11	12	13	14	15°
9-nitroanthracene	35.0	NA	NA	NA	NA	6.87	14.9	NA	NA							
1-nitropyrene	73.2	NA	NA	NA	NA	61.5	66.7	NA	NA							
2-nitrofluoranthene	310	NA.	NA	NA	NA	223	310	NA	NA							
	8.93		+	_		3.26	<0.2	NA	NA	NA	NA NA	NA	NA	NA	NA.	NA
3-nitrofluoranthene		NA	NA	NA	NA											-
7-nitrobenz[a]anthracene	23.4	NA	NA	NA	NA	19.6	21.9	NA	NA							
6-nitroehrysene	<5	NA	NA	NA	NA	3.34	3.43	NA	NA							
6-nitrobenzo[a]pyrene	<5	NA	NA	NA	NA	117	8.40	NA	NA							
		T	1	T				T	T							
		-	-	-	-			-		-				-		
Alkanes and Alkenes				-	-			-								
Laboratory No																
* received after initial data review		2	3	4	5	6	6a°	7	8	9	10	11	12	13	14	15
n-C20	NA	NA	NA	1777	<1E3	NA	NA	NA	1367	NA	1372	NA	NA	NA	NA	NA
			+						7193	NA NA	3238	6397	NA.	NA.	NA	N.A
n-C22	NA	NA	NA	NA	4385	NA	NA NA	NA NA	-		-					
n-C24	NA	NA	NA	38649	49315	NA	NA	NA	30667	NA	44688	31350	NA	NA NA	24200	N/
n-C26	NA	NA	NA	NA	215609	NA	NA	NA	87267	NA	126426	106713	NA	NA	68000	N/
n-C28	NA.	NA	NA	104565	132067	NA	NA	NA	51900	NA	80416	78822	NA	NA	62500	N/
n-C30	NA	NA	NA	53714	95339	NA	NA	NA	26500	NA	43913	44228	NA	NA	15800	N/
			+	_	+			-			23371		NA	NA	8890	N/
n-C32	NA	NA	NA	27097	66311	NA	/ NA	NA	18200	NA	+	NA NA			-	-
n-C36	NA	NA	NA	l NA	<1E3	NA	NA	NA	NA	NA	9575	NA	NA	NA	NA	N/
	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
n-C40					+	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
	NA	NA	l NA	l NA	I NA	I INM										
n-C44 ·	NA NA	NA NA	NA NA	NA NA	NA NA			-							-	N/
	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	N/

rable 2. Air Particulate I ng/g (reported as if three f	igures	rete ciar	ificant)								
PAHs	igures w	vere sigi	micani)								
									F		
Laboratory No. received after initial data review)	16*	17*	18*	19*	20*	21*	22*	23*	Assigned	cise Assigr	nea %RSD
aphthalene	NA NA	119	NA.	<906	NA NA	NA NA	NA	NA NA	622	324	52
luorene	NA	190	NA	<582	NA NA	NA	NA	NA NA	191	53	28
henanthrene	. NA	3470	NA NA	<4450	NA	NA	NA	NA NA	3806	563	15
inthracene	NA NA	387	NA NA	<1870	NA	NA	NA	NA	420	69	17
-methylphenanthrene	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA	NA NA	383	32	8
2-methylphenanthrene	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	698	70	10
-methylphenanthrene	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	477	34	7
-methylphenanthrene	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA			
0+4-methylphenanthrene			-		NA NA					assigned va	
	. NA	NA	NA	NA		NA	NA NA	NA Di		assigned va	
etene	NA	NA	NA	NA	1615	NA	NA	DL	169	. 59	not ca
H-cyclopenta(def)phenanthrene	NA	NA	NA	NA 10540	NA	NA	NA	NA		assigned va	
luoranthene	NA	6389	NA	9540	NA	NA	NA	5700	6190	681	11
pyrene	NA	5058	NA	5810	NA	NA	NA	4800	5032	415	8
penzo[ghi]fluoranthene	NA	NA	NA	NA	NA	NA	NA	7900	949	112	12
cyclopenta[cd]pyrene	NA	NA	NA	NA	NA	NA	NA	DL		assigned va	
penz[a]anthracene	NA	2124	NA	2100	NA	NA	NA	2200	2203	321	15
hrysenc	NA	3090	NA	3280	NA	NA	NA	NA	2996	236	8
riphenylene	NA	NA	NA NA	NA	NA	NA	NA	NA	1202	231	19
chrysene+triphenylene	NA	NA	NA	NA	NA	NA	NA	4700	4391	915	21
penzo[b]fluoranthene	NA	6490	NA	5840	3043	NA	NA	5800	6199	955	15
penzo[j]fluoranthene	NA	NA	NA	4200	NA	NA	NA	DL	1408	not calc.	
penzo[k]fluoranthene	NA	1855	NA	1870	3313	NA	NA	2050	1746	282	16
benzo[b+j+k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	10720	305	3
benzo[b+k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	No	assigned va	alue
penzo[b+j]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	No	assigned va	alue
penzo[e]pyrene	NA	NA	NA	3340	2797	NA	NA	3700	3358	447	13
benzo[a]pyrene	NA	2292	NA	2220	NA	NA	NA	1840	2528	478	19
perylene	NA	NA	NA	NA	NA	NA	NA	DL	624	110	18
indeno[1,2,3-cd]pyrene	NA	3324	NA	2860	NA	NA	NA	3700	3074	557	18
benzo[ghi]perylene	NA	3870	NA	4090	3685	NA	NA	4500	3968	742	19
dibenz[a,h]anthracene	NA	NA	NA	291	NA	NA	NA	1120	303	31	10
dibenz[a,c]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	205	not calc.	
dibenz $[a,h+a,c+a,j]$ anthracene	NA	NA	NA	NA	NA	NA	NA	NA	No	assigned va	alue
dibenz[a,h+a,c]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	No	assigned va	alue
benzo[b]ehrysene	NA	NA	NA	NA	NA	NA	NA	NA	297	28	10
coronene	NA	NA	NA_	NA_	2285	NA	NA	4700		932	21
dibenzo[a,e]pyrene	NA_	NA	NA	NA	NA	NA	NA	NA	No	assigned va	alue
Nitro-PAH ANALYSES					1						
Laboratory No.									Exe	rcise Assig	ned
received after initial data review	16*	17*	18*	19*	20*	21*	22*	23*	Assigned	S	%RSI
9-nitroanthracene	NA	NA	NA	NA	NA	NA	NA	NA	No	assigned va	alue
1-nitropyrene	58.8	NA	NA	NA	NA	NA	NA	NA	67.2	6	9
2-nitrofluoranthene	250	NA	NA	NA	NA	NA	NA	NA	281.0	44	16
3-nitrofluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	6.09	not calc.	
7-nitrobenz[a]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	21.7	2	9
6-nitrochrysene	NA	NA	NA	NA	NA	NA	NA	NA	11	assigned v	alue
6-nitrobenzo[a]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	No	assigned va	alue
	 	1									
Alkanes and Alkenes	-		1						Fye	rcise Assig	ned
	-		+				-			reise Assig	liou -
Laboratory No		1							l		0/ 00
received after initial data review		17*	18*	19*	20*	21*	22*	23*	Assigned	5	%RS
n-C20	NA	NA_	NA	NA NA	NA NA	806	1433	NA_	1346	402	30
n-C22	NA	NA	NA NA	NA NA	NA 10700	1680	4033	NA 10500	4738	2165	46
n-C24	NA	NA	NA NA	NA NA	10790	10100	32933	19500	27501	12803	47
n-C26	NA	NA	NA	NA NA	17130	50765	99733	67750	71051	30813	43
n-C28	NA	NA	NA	NA	13640	23843	56233	34500	62008	38227	62
n-C30	NA	NA	NA	NA	14430	10265	32900	25000	27855	15152	54
	NA	NA	NA	NA	10810		17700	34500	17364	10594	61
n-C32				NIA	NA	1275	4467	11500	5747	5231	91
	NA	NA	NA	NA	140				4		
n-C32		NA NA	NA NA	NA NA	NA	NA	NA	NA	No	assigned v	alue
n-C32 n-C36	NA						-			assigned va assigned va	
n-C32 n-C36 n-C40	NA NA	NA	NA	NA	NA	NA	NA	NA	No		alue

Table 2. Continued		1							i							
Hopanes, Cholestanes, Sterols	1															
Laboratory No.																
* received after initial data review).	1	2	3	4	5	6	6a*	7	8	9	10	11	12	13	14	15°
22, 29, 30-trisnorhopane	NA I	NA I	NA	2807	4234	NA	NA	NA I	NA	NA	NA	NA	2033	NA NA	NA	NA NA
17a(H), 21b(H)-29-norhopane	NA	NA	NA	NA	17803	NA	NA	NA	NA	NA	NA.	13199	NA NA	NA NA	NA NA	NA NA
17a(H), 21b(H)-29-hopane	NA	NA I	NA	15803	30701	NA	NA	NA	NA	NA						-
	NA I	NA	NA	NA	7583	NA	NA.	NA NA			NA	NA	NA	NA	NA	NA
20R-5a(H), 14a(H), 17b(H)-cholestanc									NA							
ABB-20R-C2s-metaylcalciescane	NA	NA	NA	1401	3353	NA										
22S-17a(H), 21b(H)-30-tomotopane	NA	NA	NA .	NA.	10212	NA	NA	NA I	NA	NA	NA	4818	4228	NA	NA	NA
22R-17a(H), 21b(H)-30-nomonywic	NA	NA	NA	NA	8055	NA	NA	NA	NA	NA	NA	3320	2292	NA	NA	NA
22S-17a(H), 21b(H)-30-bishomolopune	NA	NA	NA	NA	5828	NA	NA	NA	NA	NA	NA	3119	1852	NA	NA	NA
22R-17a(H), 21b(H)-30-histomoticpane	NA	NA	NA.	NA	4367	NA	NA	NA	NA	NA	NA	2690	4919	NA	NA	NA
pristane	NA	NA	NA	NA	NA	NA	NA	NA	406	NA	NA	NA	NA	NA	NA	NA.
phytane	NA	NA	NA	NA	NA	NA	NA	NA	389	NA						
cholesterol	NA NA	NA NA	NA.	NA 5490	NA NA	NA I	NA									
stigmasterol	NA	NA	NA	5490	NA I	NA	NA	NA	NA	NA NA	NA	NA	NA	NA	NA	NA
Carbonyls and Acids																
Laboratory No.														-		
* received after initial data review)	1	2	3	4	5	6	6a*	7	8	9	10	11	12	13	14	15°
benzanthrone	NA	, NA	NA	NA	3559	NA	NA	NA I	NA	NA	NA	2326	<40	NA.	NA NA	NA.
9-fluorenone	NA NA	NA	NA	2933	1580	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA	<40	NA NA	NA NA	NA NA
	NA	NA	NA.	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA						
anthroquinone benz[a]anthracene-7, 12-dione	NA	NA	NA NA	NA NA	3477	NA NA	NA	NA NA	NA NA	NA NA	NA	2114	NA NA	NA NA	NA NA	
	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA		NA
G-nonanoic lactone G-decanolactone	NA NA	NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA						
	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA
9-anthraldehyde	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
syringaldehyde	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
pimane acid	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
isopimaric acid	NA NA	NA NA	NA NA	NA NA	NA NA	NA	NA	NA NA	NA	NA	NA NA	NA	NA	NA NA	NA NA	NA NA
pinonic acid	NA.	NA	NA NA	NA NA	NA NA	NA NA	NA.	NA NA	NA	NA NA	NA NA	NA NA	NA	NA NA	NA NA	NA NA
hexadecanoic acid	NA NA	NA NA	NA	NA	NA NA	NA	NA.	222333	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA
norpinic acid	NA	NA.	NA	NA	NA.	NA	NA.	NA NA	NA	NA.	NA	NA NA	NA.	NA	NA NA	NA
norpinonic acid	NA.	NA.	NA.	NA	NA.	NA	NA	NA NA	NA	NA NA	NA	NA NA	NA	NA NA	NA NA	NA
	NA NA	NA	NA	NA	NA NA	NA NA	NA NA	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA	NA	NA
nopinone pinionaldehyde	NA.	NA.	NA.	NA	NA	NA NA	NA NA	NA.	NA.	NA	NA NA	NA	NA.	NA NA	NA	NA
caronaldehyde	NA	NA	NA	NA NA	NA	NA	NA	NA	NA	NA NA	NA	NA	NA	NA	NA	NA
Caronardenvac	110	147	110	111/	110	110	111/	110	117	1100	11/	IVA	1170	111/	110	140
Phenois	_			1												
Laboratory No.		1														
* received after initial data review)	1	2	3	4	5	6	6a°	7	8	9	10	11	12	13	14	15°
syringol	NA	I NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-ethylsyringol	NA	NA.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
isoeugenol	NA	NA.	NA	NA.	NA											
propionylsyringol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
butyrylsyringol	NA	NA.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
guaiacol	NA	NA	NA	NA NA	NA.	NA	NA	NA	NA	NA	NA	NA.	NA	NA	NA	NA
4-methylguaiacol	NA	NA.	NA	NA.	NA	NA	NA	NA	NA	NA.	NA	NA	NA	NA	NA	NA
4-ethylguaiacol	NA	NA.	NA	NA NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	. 1/3	1		1 111	1		1	1		1 11		1	1	1		
Sugars			-	1		-				1	1	1				
Laboratory No.		1	1	1	1		1									
(* received after initial data review)	1	2	3	4	5	6	6a°	7	8	9	10	11	12	13	14	15°
1111111111111	NA	NA	NA	10427	<2E6	NA	NA	NA	NA	NA	NA	⊤ NA	NA	NA	NA	NA

Table 2. Continued			1								
Hopanes, Cholestanes, Sterols											
Laboratory No.									Fxe	rcise Assig	ned
received after initial data review)	16*	17*	18*	19*	20*	21*	22*	23*	Assigned	S	%RSD
22, 29, 30-trisnorhopane	NA	NA I	NA	NA	<167	NA	3290	4250	3323	951	29
17a(H), 21b(H)-29-norhopane	NA	NA NA	NA	NA	NA NA	NA	13833	14000	14709		14
								-		2091	
17a(H), 21b(H)-29-hopane	NA	NA	NA	NA	15300	NA	19300	25000	21221	6562	31
20R-5a(H), 14a(H), 17b(H)-cholestane	NA	NA	NA	NA	1200	NA	3533	NA		assigned va	alue
ABB-20R-C28-methylcholestane	NA	NA	NA	NA	NA	NA	1867	1100	1930	1000	52
22S-17a(H), 21b(H)-30-homohopane	NA	NA	NA	NA	NA	NA	8833	6750	6968	2558	37
22R-17a(H), 21b(H)-30-homohopane	NA	NA	NA	NA_	NA	NA	6833	5550	5210	2394	46
22S-17a(H), 21b(H)-30-bishomohopane	NA	NA	NA	NA	NA	NA	5667	4500	4193	1701	41
22R-17a(H), 21b(H)-30-bishomohopane	NA	NA	NA	NA	NA_	NA	3933	3200	3822	892	23
pristane	NA	NA	NA	NA	NA	NA	600	NA	503	not calc.	
phytane	NA	NA	NA	NA	NA	NA	467	NA	428	not calc.	
cholesterol	NA	NA	NA	NA	NA	NA	NA	DL	No	assigned v	alue
stigmasterol	NA	NA	NA	NA	NA	NA	NA	DL	No	assigned v	alue
Carbonyls and Acids					1			-	-		
Laboratory No.					1				Eve	rcise Assig	nod
received after initial data review)	16*	17*	18*	19*	20*	21*	22*	23*			%RSD
·									Assigned	S	
benzanthrone	NA_	NA	NA	NA	61210	532	NA	1660	2019	1266	63
9-fluorenone	NA	NA	NA	NA	NA	309	NA	NA	1607	1312	82
anthroquinone	NA	NA	NA	NA	NA	533	NA	990	762	not calc.	
benz[a]anthracene-7, 12-dione	NA	NA	NA	NA	41865	887	NA	6700	3295	2505	76
G-nonanoic lactone	NA	NA	NA	NA	NA	NA	NA	NA		assigned v	
G-decanolactone	NA	NA	NA	NA	NA	NA	NA	NA		assigned v	
9-anthraldehyde	NA	NA	NA	NA	NA	NA	NA	NA	-	assigned v	
syringaldehyde	NA	NA	NA	NA	NA	NA	NA	NA		assigned v	
pimaric acid	NA_	NA	NA	NA	<708	NA	NA	DL		assigned v	
isopimaric acid	NA	NA	NA	NA	<2380	NA	NA	DL		assigned v	
pinic acid	NA	NA	NA	NA	NA	NA	NA	NA		assigned v	
pinonic acid	NA_	NA	NA	NA	NA	NA	NA	NA		assigned v	
hexadecanoic acid	NA	NA	NA	NA	NA	170353	NA	555000	315896	208695	66
norpinic acid	NA	NA	NA	NA	NA	NA	NA	NA	No	assigned v	alue
norpinonic acid	NA	NA	NA	NA	NA	NA	NA	NA	No	assigned v	alue
nopinone	NA	NA	NA	NA	NA	0	NA	NA	No	assigned v	alue
pinionaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	No	assigned v	alue
caronaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	No	assigned v	alue
Phenols		-		-	-	1					
Laboratory No.				-					Ev	rcise Assig	ned
received after initial data review)	16*	17*	18*	19*	20*	21*	22*	23*	Assigned	s cise Assig	%RSD
		NA.		NA		NA NA				assigned v	
syringol	NA		<20		NA NA		NA	NA NA			
4-ethylsyringol	NA	NA	<20	NA	NA	NA NA	NA	NA		assigned v	
isoeugenol	NA	NA	<20	NA	NA NA	NA	NA	NA		assigned v	
propionylsyringol	NA	NA	<20	NA	NA NA	NA	NA	NA		assigned v	
butyrylsyringol	NA	NA	<20	NA	NA	NA	NA	NA_		assigned v	
guaiacol	NA	NA	<20	NA	NA	NA	NA_	NA		assigned v	
4-methylguaiacol	NA	NA	<20	NA	NA	NA	NA	NA		assigned v	
4-ethylguaiacol	NA	NA	<20	NA	NA	NA	NA	NA	No.	assigned v	alue
Sugars											
Laboratory No.			-	1				1	Fy	ercise Assig	ned
received after initial data review)	16*	17*	18*	19*	20*	21*	22*	23*	Assigned	S S	%RSD
I received after fillial data review)	10	1 17	1 10	1 0	- 20	1		20	II , looigilou		

ng/g (reported as if three fig	ures we	re signif	icant)													
AHs		- Congress														
Laboratory No.									-							
received after initial data review)	1	2	3	4	5	6	6a°	7	8	9	10	11	12	13	14	15
aphthalene	926	NA I	101	7123	826	NA	NA I	600	213	other	NA	NA	9219	875	NA	966
luorene	197	NA	79	555	1869	131	143	193	144	132	NA	295	212	254	NA	263
					5007											
henanthrene	4204	NA	3302	6724		3358	3577	4097	3010	3687	NA	3824	4671	4919	4250	401
nthracene	455	NA	394	1135	866	282	373	697	468	832	NA	602	505	491	NA	426
-methylphenanthrene	398	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	414	383	414	NA	N.A
-methylphenanthrene	745	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	723	731	NA	NA	NA
-methylphenanthrene	512	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	544	NA	NA	NA	NA
-methylphenanthrene	342	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
+4-methylphenanthrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	378	NA	NA	NA	NA.
etene	NA	NA	NA	NA	NA	178	116	NA	NA	NA	NA	NA	136	NA	NA	NA
					NA											
H-cyclopenta(def)phenanthrene	327	NA	NA	NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N/
Nuoranthene	6328	NA	5150	7815	8521	5008	6205	6560	6730	5433	NA	5858	7417	7145	6480	571
pyrene	5322	NA	4704	6209	7385	3945	5281	5323	4550	4547	NA	4904	5349	5607	5380	470
penzo[ghi]fluoranthene	893	NA	NA	NA	1942	758	1096	NA	NA	NA	NA	NA	NA	NA	NA	NA
yclopenta[cd]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
penz[a]anthracene	2184	NA	1780	2768	NA	1743	2400	3083	2683	4477	NA	2042	2276 *	2436	NA	183
hrysene	2990	NA.	2771	5405	NA	2490	3231	4697	4123	4583	NA	NA	NA	NA	NA	415
riphenylene	1268	NA NA	NA	NA	NA	962	1500	NA	NA	NA	NA	NA NA	NA	NA	NA	NA
	NA.	NA NA	NA	NA NA	4690	NA	NA NA	NA NA	NA NA	NA NA	NA NA	3987	5524	4816	NA NA	
chrysene+triphenylene																NA COA
benzo[b]fluoranthene	6488	5847	3975	5428	3505	6358	6279	8143	NA	NA	NA	NA	NA	6400	NA	621
penzo[/]fluoranthene	1217	NA	NA	NA	447	NA	NA	NA	NA	NA	NA	NA	NA	1540	NA	NA
penzo[k]fluoranthene	1858	1677	1748	1254	NA	1602	1863	2807	NA	NA	NA	NA	NA	1910	NA	171
benzo[b+j+k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	10347	NA	9250	9957	NA	NA	N/
benzo[b+k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	9543	NA	NA	NA	NA	NA	NA	NA
benzo[b+j]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7610	N/
benzo[e]pyrene	2962	NA	NA	NA	3401	2921	3281	NA	2677	4267	NA	3006	3485	3374	NA	322
					2356	2429			2507				2924		2490	212
penzo[a]pyrene	2698	2413	2011	4164			2651	3063		3380	NA	2877		3113		
perylene	660	NA	NA	NA	636	553	629	NA	524	809	NA	618	579	602	NA	544
indeno[1,2,3-cd]pyrene	2746	2957	2233	3643	2164	2596	3646	2923	3673	2160	NA	2784	2709	3910	3250	282
benzo[ghi]perylene	4319	3627	2707	3415	2297	3436	4316	4503	4047	5217	NA	3431	4162	4773	3910	335
dibenz[a,h]anthracene	289	238	293	NA	NA	448	348	636	488	1800	NA	NA	NA	357	NA	410
dibenz[a,c]anthracene	201	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	224	NA	N/
dibenz[a,h+a,c+a,j]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	774	NA	NA	NA	NA
dibenz[a,h+a,c]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	406	NA	NA	NA
benzo(b)chrysene	316	NA	NA	NA	NA	275	284	NA	NA	NA	NA	NA	NA	NA	NA	NA
coronene	NA	NA	NA	3921	NA	NA	NA	NA	NA	NA	NA	5624	4332	NA	NA	NA
dibenzo[a,e]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	659	NA	NA	NA	NA
														_		
Nitro-PAH ANALYSES		-														
		+		-				-	-							
Laboratory No.								-			- 10			10	4.4	45
* received after initial data review)	1	2	3	4	5	6_	6a*	7	8	9	10	11	12	13	14	15
9-nitroanthracene	33.9	NA	NA	NA	NA	6.40	14.5	NA	NA.	NA	NA	NA	NA	NA	NA	NA.
1-nitropyrene	79.5	NA	NA	NA	NA	60.8	64.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-nitrofluoranthene	324	NA	NA	NA	NA	225	300	NA	NA	NA	NA	NA	NA	NA	NA	N/
3-nitrofluoranthene	10.8	NA	NA	NA	NA	<0.03	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	N/
7-nitrobenz[a]anthracene	29.5	NA	NA	NA.	NA	19.3	20.5	NA.	NA	NA	NA	NA	NA	NA	NA	N/
	<5	NA NA	NA NA	NA.	NA	3.89	3.10	NA.	NA.	NA.	NA.	NA	NA	NA.	NA	N/
6-nitroehrysene								-						-	NA NA	N/
6-nitrobenzo[a]pyrene	<5	NA	NA	NA	NA	122	8.03	NA	NA	NA	NA	NA	NA	NA	INA	N/
												-				
Alkanes and Alkenes		1														
	-															
Laboratory No	1	-	-	-	-	-	6-0	7	0	8	10	11	12	13	14	15
* received after initial data review		2	3	4	5	6	6a*	7	8				-		-	THE REAL PROPERTY.
n-C20	NA	NA	NA	1464	<1E3	NA	NA	NA	1527	NA	NA	NA	NA	NA	NA	N/
n-C22	NA	NA	NA	NA	5786	NA	NA	NA	12623	NA	NA	7804	NA	NA	NA	N/
n-C24	NA	NA	NA	29652	71842	NA	NA	NA	39733	NA	NA	38740	NA	NA	27000	N/
n-C26	NA	NA	NA	NA	305984	NA	NA	NA	101633	NA	NA	124872	NA	NA	78300	N.
n-C28	NA	NA	NA	103497	200423	NA	NA	NA	64233	NA	NA	103182	NA	NA	37600	N/
	-				-	-			-	-		63986	NA	NA	18200	N
n-C30	NA	NA	NA	38273	135440	NA	NA	NA	39733	NA	NA	_	-	+		-
n-C32	NA	NA	NA	26425	101968	NA	NA	NA	21833	NA	NA	NA	NA	NA	9410	N.
n-C36	NA	NA	NA	NA	<1E3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
n-C40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N.
	_	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N.
n-C44	NA.							1	1							1
n-C44 squalene	NA NA	NA.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	į N

ng/g (reported as if three figure	ires we	re sianif	icant)								
PAHs						•					
Laboratory No.									From 1649a C	ertificate of A	nalysis
received after initial data review)	16*	17*	18*	19*	20*	21*	22*	23*	conc.	95%CL	type
aphthalene	NA	121	NA	<1020	NA	NA	NA	NA	no target		Target
luorene	NA	105	NA	<560	NA	NA	NA	NA	230	50	Reference
henanthrene	NA	4091	NA	<4500	NA	NA	NA	NA	4140	370	Certified
inthracene	NA	364	NA	<1730	NA	NA	NA	NA	432	82	Certifie
-methylphenanthrono	NA	NA	NA	NA	NA	NA	NA	NA	370	40	Reference
2-methylphenanthrenc	NA	NA	NA	NA	NA	NA	NA	NA	730	120	Reference
-methylphenanthrenc	NA	NA	NA	NA	NA	NA	NA	NA	500	50	Reference
9-methylphenanthrono	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
0+4-methylphenanthrone	NA NA	NA	NA NA	NA	NA	NA	NA	NA	no target		Target
etene	NA	NA NA	NA	NA NA	571	NA	NA	DL	no target		Target
H-cyclopenta(def)phenanthrene	NA	NA	NA	NA NA	NA	NA	NA	NA NA	320	60	Reference
luoranthene	NA	5754	NA	10150	NA	NA	NA	5700	6450	180	Certifie
pyrene	NA	4760	NA	6050	NA NA	NA	NA	5200	5290	250	
penzo[ghi]fluoranthene	NA	NA NA	NA	NA NA	NA NA	NA NA	NA NA	8800			Certified
cyclopenta[cd]pyrenc				NA NA					880	20	Reference
	NA	NA 4000	NA	-	NA	NA NA	NA	DL	no target		Target
penz[a]anthracene	NA	1869	NA	2120	NA NA	NA NA	NA	2200	2210	73	Certified
chrysene	NA	2602	NA	3320	NA	NA	NA	NA	3049	60	Certified
riphenylene	NA	NA	NA NA	NA	NA	NA	NA	NA	1357	54	Certified
chrysene+triphenylone	NA	NA	NA_	NA	NA	NA	NA	4700	no target		Target
penzo[b]fluoranthene	NA	5790	NA	5680	2620	NA	NA	6100	6450	640	Certifie
penzo[j]fluoranthene	NA	NA	NA	3690	NA	NA	NA	DL	1500	400	Reference
penzo[k]fluoranthene	NA_	1552	NA	1640	2967	NA	NA	2900	1913	31	Certified
benzo $[b+j+k]$ fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
benzo[b+k]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
benzo[b+j]fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
benzo[e]pyrene	NA	NA	NA	3260	2440	NA	NA	3900	3090	190	Certified
benzo[a]pyrene	NA	1961	NA	2360	NA	NA	NA	1990	2509	87	Certifie
perylene	NA	NA	NA	NA	NA	NA	NA	DL	646	75	Certified
indeno[1,2,3-cd]pyrene	NA	2706	NA	3220	NA	NA	NA	3700	3180	720	Certified
benzo[ghi]perylene	NA	3205	NA	4010	1997	NA	NA	4600	4010	910	Certified
dibenz[a,h]anthracene	NA	NA	NA	282	NA	NA	NA	1100	288	23	Certified
dibenz[a,c]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	200	25	Certifie
dibenz[$a,h+a,c+a,j$]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
dibenz[a,h+a,c]anthracene	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
benzo[b]chrysenc	NA	NA	NA	NA	NA	NA	NA	NA	315	13	Certifie
coronene	NA	NA	NA	NA	746	NA	NA	4000	no target		Target
dibenzo[a,e]pyrene	NA	NA	NA	NA	NA	NA	NA	NA	630	80	Referen
Nitro-PAH ANALYSES											
Laboratory No.									From 1649a (Certificate of A	nalysis
* received after initial data review)	16*	17*	18*	19*	20*	21*	22*	23*	conc.	95%CL	type
9-nitroanthracene	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
1-nitropyrene	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
2-nitrofluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
3-nitrofluoranthene	NA	NA NA	NA	NA	NA	NA	NA	NA	no target		Target
7-nitrobenz[a]anthracene	NA NA	NA NA	NA	NA NA	NA	NA NA	NA	NA	no target		Target
6-nitrochrysenc	NA NA	NA NA	NA NA	NA NA	NA	NA NA	NA NA	NA NA	no target		Target
6-nitrobenzo[a]pyrene	NA	NA NA	NA	NA NA	NA	NA	NA NA	NA NA	no target		Target
o-indoctizo[a jpyrene	INA	INA	INA	INA	IVA	INA	11/4	110	no target		rarget
			-			-				_	-
Alkanes and Alkenes		-		-	-						
Laboratory No.									From 1649a	Certificate of A	nalysis
(* received after initial data review)	16*	17*	18*	19*	20*	21*	22*	23*	conc.	95%CL	type
n-C20	NA	NA	NA	NA	NA	915	1567	NA	no target		Target
n-C22	NA	NA	NA	NA	NA	1797	4733	NA	no target		Target
n-C24	NA	NA	NA	NA	5150	16364	37000	22500	no target		Target
n-C26	NA	NA	NA	NA	9247	73257	111333	74500	no target		Target
n-C28	NA	NA	NA	NA	5250	32984	60633	40500	no target		Target
	NA	NA NA	NA	NA	5295	12978	35667	29000	no target		Target
In-C.30	NA	NA NA	NA	NA NA	4315	5900	18733	40000	no target		Targe
n-C30		117	14/		+		-		11	-	Target
n-C32		NΙΔ	NΔ	NΔ	NΔ	2537	4567	1 ///////	II DO ISPOSI		
n-C32 n-C36	NA	NA NA	NA NA	NA NA	NA NA	2537 NA	4567 NA	12000 NA	no target		+
n-C32 n-C36 n-C40	NA NA	NA	NA	NA	NA	· NA	NA	NA	no target		Target
n-C32 n-C36	NA		-					-	1		Target Target Target

Table 3. Cootinued		_											-			
Hopanes, Cholestanes, Sterols																
Laboratory No.																
* received after initial data review)	1	2	3	4	5	6	6a°	7	8	9	10	11	12	13	14	15°
22, 29, 30-trisnorhopane	NA	NA	NA	2769	5893	NA	NA	NA	NA	NA	NA	NA	2007	NA	NA	NA
17a(H), 21b(H)-29-norhopane	NA	NA	NA	NA	25974	NA	NA	NA	NA	NA	NA	12651	NA.	NA	NA	NA
17a(H), 21b(H)-29-hopane	NA	NA	NA	15879	41959	NA	NA	NA	NA	NA	NA	NA.				
20R-54(H), 144(H), 17b(H)-cholestane	NA	NA	NA	NA NA	9255	NA.	NA.	NA	NA.				NA	NA	NA	NA
										NA						
ABB-20R-C28-methylcholestane	NA	NA	NA	3495	4153	NA	NA	NA	NA	NA	NA.	NA	NA	NA	NA	NA
22S-17a(H), 21b(H)-30-humotupane	NA	NA	NA	NA	14062	NA	NA	NA	NA.	NA	NA	4507	3389	NA	NA	NA
22R-17a(H), 21h(H)-30-homohopune	NA	NA	NA	NA	11517	NA	NA	NA	NA	NA	NA	2819	2674	NA	NA	NA
22S-17a(H), 21b(H)-30-bisnumohupane	NA	NA	NA	NA	7834	NA	NA	NA	NA	NA	NA	2097	2169	NA	NA	NA
22R-17a(H), 21b(H)-30-bistomotiopane	NA	NA	NA	NA	6108	NA	NA	NA	NA.	NA	NA	2473	2192	NA	NA	NA
pristane	NA	NA	406	NA	NA	NA	_NA	NA	NA	NA						
phytane	NA	NA	351	NA												
cholesterol	NA	NA	NA_	13650	NA	NA	NA	NA	NA	NA	NA	NA.	NA	NA	NA	NA
stigmasterol	NA	NA	NA	NA	NA NA	NA	NA	NA	NA	NA						
Carbonyls and Acids															-	
Laboratory No.																-
* received after initial data review)	1	2	3	4	5	6	6a°	7	8	9	10	-11	12	13	14	15°
benzanthrone	NA	NA	NA	NA	4474	NA	NA	NA	NA	NA	NA	2494	48	NA	NA	NA
9-fluorenone	NA	NA	NA	3006	2271	NA	NA	NA	NA	NA	NA	NA	<40	NA	NA	NA
anthroquinone	NA	NA	NA	NA	NA	NA	NA.	NA	NA.	NA						
benz[a]anthracene-7, 12-dione	NA	NA	NA	NA	4345	NA	NA	NA NA	NA.	NA	NA	2128	NA.	NA.	NA.	NA
G-nonanoic lactone	NA	NA	NA	NA	NA	NA.	NA.	NA NA	NA	NA						
G-decanolactone	NA	NA	NA	NA	NA	NA	NA.	NA	NA	NA	NA.	NA.	NA NA	NA NA	NA NA	NA.
9-anthraldchyde	NA.	NA	NA	NA	NA.	NA	NA.	NA	NA.	NA.	NA.	NA NA	NA NA	NA NA	NA NA	NA
synngaldchyde	NA.	NA	NA	NA.	NA.	NA	NA.	NA NA	NA	NA.	NA.	NA NA	NA NA	NA NA	NA NA	
pimaric acid	NA.	NA	NA	NA	NA	NA	NA	NA NA	NA	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA
1	NA NA	NA	NA	NA.	NA.	NA	NA.	NA NA	NA.	NA NA	NA	NA NA				
pinic acid	NA NA	NA NA	NA NA	NA.	NA NA	NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA NA	NA	NA
	NA NA	NA NA	NA NA	NA NA	NA NA	NA.	NA NA	NA NA	NA NA	NA NA	NA NA				NA	NA
pinonic acid	NA NA	222333	NA NA	NA NA	NA NA	NA	NA	NA	NA	NA						
hexadecanoic acid		NA NA	NA NA	NA NA	NA NA							NA	NA	NA	NA	NA
norpinic seid	NA.		NA NA		NA NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
norpinonic acid	NA	NA_		NA		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
nopinone	NA	NA.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pinionaldehyde	NA	NA	NA	NA NA	NA.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
caronaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
Phenois			-	1				1		1	-			1		
Laboratory No.																
* received after initial data review)	1	2	3	4	5	6	6a°	7	8	9	10	11	12	13	14	15°
synngol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
4-ethylsyringol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
isoeugenol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
propionylsyringol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
butyrylsyringol	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA						
guaiacol	NA	NA	NA	· NA	NA.	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-methylguaiacol	NA.	NA.	NA	NA.	NA.	NA.	NA	NA.	NA.	NA.	NA	NA	NA	NA.	NA	NA
4-ethylguaiacol	NA.	NA	NA	NA NA	NA NA	NA	NA.	NA NA	NA	NA NA	NA	NA	NA	NA	NA	NA
Sugars										-				-	-	
Laboratory No.	1	2	3	4	5	6	6a°	7	8	9	10	11	12	13	14	15*
(* received after initial data review)																1 15

Table 3. Continued									i		
Hopanes, Cholestanes, Sterols									-		
Laboratory No.									C 1640- C	ertificate of Ar	-1
* received after initial data review)	16*	17*	18*	19*	20*	21*	22*	23*	conc.	95%CL	type
22. 29. 30-trisnorhopane	NA I	NA	NA I	NA NA	1131	NA NA	3267	3900	no target	33 /8CL	
17a(H), 21b(H)-29-norhopane	NA	NA	NA NA	NA NA	NA	NA NA	13600	12500			Target
									no target		Target
17a(H), 21b(H)-29-hopane	NA	NA	NA	NA	2437	NA	19000	23500	no target		Target
20R-5a(H), 14a(H), 17b(H)-cholestane	NA	NA	NA	NA	<167	NA	3433	NA	no target		Target
ABB-20R-C28-methylcholestane	NA	NA	NA	NA	NA	NA	1900	5050	no target		Target
22S-17a(H), 21b(H)-30-homohopane	NA	NA	NA	NA	NA	_NA	8700	6000	no target		Target
22R-17a(H), 21b(H)-30-homohopane	NA	NA	NA	NA	NA	NA	6700	5100	no target		Target
22S-17a(H), 21b(H)-30-bishornohopane	NA	NA	NA	NA	NA	NA	5533	3900	no target		Target
22R-17a(H), 21b(H)-30-bishomohopane	NA	NA	NA	NA	NA	NA	3833	3400	no target		Target
pristane	NA	NA	NA	NA	NA	NA	667	NA	no target		Target
phytane	NA	NA	NA	NA	NA	NA	433	NA	no target		Target
cholesterol	NA	NA	NA	NA	NA	NA	NA	DL	no target		Target
stigmasterol	NA	NA	NA	NA	NA	NA	NA	DL	no target		Target
Carbonyls and Acids											
Laboratory No.									From 1649a (Certificate of A	nalysis
* received after initial data review)	16*	17*	18*	19*	20*	21*	22*	23*	conc.	95%CL	type
benzanthrone	NA	NA	NA	NA	52567	945	NA	1610	no target		Target
9-fluorenone	NA	NA	NA	NA	NA.	382	NA	NA	no target		Target
anthroquinone	NA	NA	NA	NA	NA	812	NA	850	no target		Target
benz[a]anthracenc-7, 12-dione	NA	NA	NA	NA	14130	1467	NA	6500	no target		Target
G-nonanoic lactone	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
G-decanolactone	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
9-anthraldehyde	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
syringaldehydc	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
pimaric acid	NA	NA	NA	NA	<708	NA	NA	DL	no target		Target
isopimaric acid	NA	NA	NA	NA	<2380	NA	NA	DL	no target	-	Target
pinic acid	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
pinonic acid	NA	NA	NA	NA	NA	NA	. NA	NA	no target		Target
hexadecanoic acid	NA	NA	NA	NA	NA	208370	NA	495000	no target		Target-
norpinic acid	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
norpinonic acid	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
nopinone	NA	NA	NA	NA	NA	0	NA	NA	no target		Target
pinionaldchyde	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
caronaldehyde	NA	NA	NA	NA	NA	NA	NA	NA	no target		Target
Phenols		-		-	ļ					1	
Laboratory No.	40*	47*	4.0+	40*	20*	24*	22*	23*	11	Certificate of A	
(* received after initial data review)	16*	17*	18*	19*	20*	21*			conc.	95%CL	type
syringol	NA_	NA	<20	NA	NA	NA	NA	NA NA	no target		Target
4-ethylsyringol	NA	NA	<20	NA	NA	NA	NA	NA	no target		Target
isoeugenol	NA	NA	<20	NA	NA	NA NA	NA	NA	no target		Target
propionylsyringol	NA	NA	<20	NA	NA	NA	NA	NA	no target		Target
butyrylsyringol	NA	NA	<20	NA	NA	NA	NA	NA	no target		Target
guaiacol	NA NA	NA	<20	NA NA	NA	NA	NA	NA	no target		Target
4-methylguaiacol	NA	NA	<20	NA NA	NA	NA NA	NA	NA NA	no target		Target
4-ethylguaiacol	NA	NA	<20	NA	NA	NA	NA	NA	no target		Target
Sugars											
Laboratory No.									From 1649a	Certificate of A	nalysis
* received after initial data review)	16*	17*	18*	19*	20*	21*	22*	23*	conc.	95%CL	type
levoglucosan	NA	NA	NA	NA NA	NA	NA	NA	DL	no target		Target

Laboratory No.	-	2	3	4	5	9	7	∞	6	10	Ξ	12	13	14
naphthalene	-0.2		-0.4	-1.0	1.3		0.2	-0.5	3.5	8.0		19.7	-0.4	
fluorene	-1.7		-2.9	-2.1	-1.3	-0.2	0.1	-1.1	-1.2	-2.3	2.7	1.9	-0.5	1
phenanthrene	-0.4		0.0	9.0-	0.4	0.2	-0.1	-0.5	-0.7	0.0	-0.7	8.0	0.3	8.0
anthracene	-1.3		-0.2	0.7	0.5	-1.0	1.1		1.9	1.4	-0.1	2.5	-1.1	
1-methylphenanthrene	-0.2										-0.2	6.0	-0.5	
2-methylphenanthrene	-0.3										9.0-	6.0		
3-methylphenanthrene	0.1										-0.1			
fluoranthene	-0.5		-0.4	8.0-	0.5	0.1	0.0	0.1	6.0-	-0.3	-0.5	1.5	0.1	8.0
pyrene	-0.3		0.1	-0.7	6.0	0.0	0.1	9.0-	-0.8	1.7	-0.3	0.7	0.0	1.0
benzo[ghi]fluoranthene	-0.4				3.1	0.4								
benz[a]anthracene	-0.7		-0.5	-0.7		-0.1	2.8	8.0	2.0	0.2	6.0	0.5	-0.2	
chrysene	-0.3		0.0	6.0		0.3	1.9	1.5	1.3	1.6				
triphenylene	-0.5					0.5								
chrysene+triphenylene					-1.1						0.1		-0.2	
benzo[b]fluoranthene	-0.5	9.0-	8.0-	-0.9	-1.8	1.5	1.7			1.3			-0.4	
benzo[j]fluoranthene	-0.5	,			-2.4								0.5	
benzo[k]fluoranthene	-0.5	0.1	0.2	-1.5		1.3	2.5			2.2			0.4	
benzo[e]pyrene	6.0-				6.0	1.0		8.0-	-0.5		-0.2	9.0	-0.2	
benzo[a]pyrene	-1.1	-0.5	6.0-	-0.3	-0.1	0.2	1.6	-0.4	-1.0	-1.6	8.0	9.0	0.4	0.4
perylene	-0.7				0.5	0.3		9.0-	6.0-		1.3	0.7	-0.7	
indeno[1,2,3-cd]pyrene	-1.1	0.0	-0.9	-0.8	6.0	0.4	9.0	8.0	-2.5	-0.3	1.0	0.1	0.1	1.4
benzo[ghi]perylene	-0.4	-0.5	-0.5	-1.4	1.1	9.0	1.4	-0.1	-1.2	-0.2	0.3	9.0-	0.0	1.2
dibenz[a,h]anthracene	-0.7	-0.7	1.1	0.3		3.8	19.3	2.7	9.2	4.6			0.3	
dibenz[a,c]anthracene	0.1												-0.1	
benzo[b]chrysene	-0.4					0.4								
C20				-0.5				0.5		-3.7				
C22					-0.9			0.2		2.2	0.7			
C24				-1.3	9.0			-1.1		2.1	1.9			-0.1
C26					1.7			-1.1		1.4	-0.1			-0.5
C28				-1.2	2.3			-1.0		2.0	0.5			-0.7
C30				-2.0	2.8			-1.3		3.1	1.6			-1.0
C32				6.0-	12.6			9.0		3.7				0.3

Table 5. Air Particula	ate Ex	Extract I:	N	scores (s)	(s)									
				•										
Laboratory No.	-	2	3	4	5	9	7	8	6	10	=	12	13	14
naphthalene	-0.3		-0.5	-1.4	1.9		0.3	-0.8	5.1	1.2		28.5	9.0-	
fluorene	-1.1		-1.9	-1.4	8.0-	-0.1	0.1	-0.7	-0.8	-1.5	1.8	1.2	-0.3	
phenanthrene	-0.8		0.0	-1.1	8.0	0.4	-0.3	-1.0	-1.2	0.1	-1.3	1.4	0.5	1.4
anthracene	6.0-		-0.1	0.5	0.4	-0.7	8.0	8.0	1.4	1.0	-0.1	• 1.8	-0.8	
1-methylphenanthrene	-0.4										-0.4	1.5	-0.7	
2-methylphenanthrene	-0.4										-0.8	1:1		
fluoranthene	-0.7		9.0-	-1.2	8.0	0.1	0.0	0.1	-1.3	-0.4	-0.7	2.2	0.1	1.1
pyrene	9.0-		0.2	-1.4	1.7	0.0	0.1	-1.1	-1.5	3.2	-0.5	1.4	0.0	1.8
benzo[ghi]fluoranthene	-0.7				6.2	0.7								
benz[a]anthracene	-1.1		-0.7	-1.1		-0.1	4.2	1.2	3.1	0.3	1.4	0.7	-0.3	
chrysene	-0.7		0.1	1.8		0.7	3.9	3.3	2.7	3.4				
chrysene+triphenylene					-1.2						0.2	1.2	-0.2	
benzo[b]fluoranthene	-0.5	-0.5	-0.7	8.0-	-1.6	1.4	1.5			1.2			-0.3	-
benzo[j]fluoranthene														
benzo[k]fluoranthene	-0.5	0.1	0.2	-1.6		1.4	2.6			2.4			0.4	
benzo[e]pyrcne	-1.2			·	1.2	1.3		-1.0	-0.7		-0.2	8.0	-0.2	
benzo[a]pyrcne	-1.3	9.0-	-1.1	-0.3	-0.1	0.2	1.9	-0.5	-1.2	-1.9	1.0	0.7	0.5	0.5
perylene	6.0-				9.0	0.4		-0.7	-1.1		1.6	6.0	-0.8	
indeno[1,2,3-cd]pyrene	-1.0	0.0	-0.9	-0.8	8.0	0.4	9.0	0.7	-2.3	-0.3	6.0	0.1	0.1	1.3
benzo[ghi]perylene	-0.4	9.0-	9.0-	-1.5	1.2	0.7	1.6	-0.1	-1.4	-0.2	0.4	9.0-	0.0	1.4
dibenz[a,h]anthraccne	8.0-	8.0-	1.3	0.4		4.4	22.7	3.2	10.8	5.4			0.3	
C22					-1.1			0.2		2.7	6.0			
C24				-1.0	0.5			-0.9		1.6	1.4			-0.1
C26					1.4			-0.9		1.2	0.0			-0.4
C28				8.0-	1.6			-0.7		1.4	0.4			-0.5
C30				-1.0	1.3			9.0-		1.5	8.0			-0.5
C32				-1.1	15.6			0.7		4.5				0.4

Laboratory No. 7 2 3 4	-	2	3	4	2	9	6a	7	oc.	6	0	=	\dashv	-	14	15 16	-	200	61	07	17	77
naplithalene	1.6		-2.7	54.2	1.7			1.0	-2.6			-	-		4	42.4	-3.2					
fluorene	-0.7		-3.2	7.8	23.9	6.0-	-13	0.1	-1.0	-1.0	0.5	-	-	0.1		1.4	0.0				T	
phenanthrene	0.2		8.0-	2.8	-0.3	0.0	-0.3	0.3	-0.6				-	-	0.2	6.	4.0.					1
anthracene	10-		60	5.7	10	60-	-07	2.7	0.5	+	+	-	+	9.6	1	0	2					
1-methylphenanthrene	-0.4											0.0	0.1	9.4								1
2-methylphenanthrene	-0.3			İ								+	200									-
methylphenanthrene	70-					1.6	-1.0					-	-0.5							34.1		
retene 414.coslonenta(def)phenanthene												-		-	H	8.0-	7.0-					
fluoranthene	-0.1		-0.7	8.0	-0.1	-0.4	-0.2	0.2	0.5	-0.5		-0.5	0.5	9.0		0.0	0.1		2.2			
Viene	00	1	-0.4	0.5	0.0	-0.5	0.0	0.2	-0.2	-0.5	4		-	-	0.0	-0.1	00		90		Ī	
benzolghi Jiluoranthene	-0.5				1.8	0.0	0.5							1		-	7					
cyclopenta[cd]pyrenc										1	+	+	+			3.0	0.1		200			
benzla Janthracene	-0.2		6.0-	6.0		-0.4	0.1	9.1	1.2	3.7	0.3	5.0	7.0	0.3	1	0.0	? -		2.2			
chrysene	-0.1		-0.5	2.3		-0.1	0.2	2.1	×.	7.7	7.0			-		o.	5		5			
triphenylene	-0.1					-0.7	8.0		+			+	+		+							
chrysenc+triphenylene					-1.0						+	7.7	2	4.0	-	. 0	00		20	2.0		
benzolb illuoranthene	-0.2	-0.2	-1.4	9	-2.0	8.0	0.1	0.1			0.9			0.0		2	0.5		7.0	i		
benzol/Jlluorauthene	-0.7				-3.0							-	-	0.0		70	0.0		0.3	3.6		
benzolk Huoranthene	1.0	9	-0.3	-14		0.1	0.0	3.0		0.0	-		10.	0.0								
bearing of the fitting and the fit	70			Ī	90	0.0	5 9		+	200		+	+	1.	-	1.2			0.0	-0.7		
benzala laviene	0.0	0.3	0.0	30	0.0	0.0	0.0	80	0.0	13	-1.5	+	╀	=	-0.4	-0.5	-0.4		-0.5			
outless Press	0.0	2	î	2	01-	0.1	-0.1		+	1.3		+	+-	+	-	0.1						
indenol 1.2.3 ~d lpyrene	-0.5	0.0	0.1.	0.5	Ę	0.0	0.7	-0.2	+	17	+	+-	-0.6	-	0.1	1.2	0.3		-0.3			
benzolg/n [perylene	0.3	-0.5	-1.3	-0.4	-1.5	0.1	0.3	9.0	6.0	1.7	0.1	-	-	-	-	-0.4	-0		0.1	-0.3		
dibenz[a,h Janthracene	-0.2	-0.4	0.0			2.9	0.5	4.3	-	20.4	5.8			0.7	' '	13			-0.2			
dibenz[a,c]anthracene	-0.1			′										0.1								
benzolb Jehrysene	-0.1					0.4	-0.3					+								0,0		
coronene				-1.2								0.8	7.0		-	-	5			0.4		
1-nitropyrene	4.0			T		2 0	0.0					+				-0.4	4					
3-pirofluoranthene	0					6.1-									-							
7-nitrobenz a anthracene	0.3			T		-0.4	0.0															
6-nitrochrysene																					-16	03
C22					-0.3				2.1		-1.3	1.4									-2.6	0.0
C24				9.1	3.2				0.5		2.5	9.0		-	-0.5					-2.4	-2.5	0.8
C26					8.1				6.0		3.1	2.0			0.7					0.5-	1.1.	0.0
C28				2.7	4.5				-0.7		1.2			1	0.0						2.5	7. 0
C30				7.7	9.7				-0.2		52	4.7		1	200		-	-		5 -	-30	0.0
C32				7.7	?				7:0			-									3.1	-0.9
22 29 30-trisportonane				900	=								-1.6	-								0.0
17a(H), 21b(H)-29-norhopane					8.0				-			-0.4										-0.2
17a(H), 21b(H)-29-hopane				-1.0	8.1															=		-0.4
ABB-20R-C28-methylcholestane					2.9							\dashv				+					1	Q -
22S-17a(H), 21b(H)-30-homohopane	J			Ì	6:1							+	9.1-		+							=
22R-17a(H), 21b(H)-30-homohopane	c				2.2							-1.5	-2.2	+	+							7.1
22S-17a(H), 21b(H)-30-bishomohopane	anc				9.1							+	7.7-	-								
22K-1 /a(H), 21b(H)-30-bishomohopane	pane				0.0				0.0			+	= -									8.0
pristanc									-0.4													0.4
benzanthrone					3.0							9.0								117.2	-2.9	
9-fluorenone				3.3	-0.1									+							-3.2	
anthroquinone													_		_						7:1-	
Denziu amunacene-7, 14-mone					0							-1.4				-	-			46.8	-2.9	_

Experimentary Strict Str	Table 7. Air Particulate I: z scores (s)	ate I: 2	Sco	res (s,							-		-	-	-	+	+	-	0		00	16	,:	23
The continue of the continue			2	3	4	5	9	6a	7	×	-	0	7	-#	- -	╢	-	- -	01	2	07	7	1	3
Section		L		-1.3	26.0	8.0			0.5	-1.3	-	+	+	-		70.	2	77				+		
Continue fluorene	-0.7		-2.9	7.1	21.6	8.0-	-:	0.1	6.0-	+		+	+	+	+		0.0							
Segmentation of all all all all all all all all all al	phenanthrene	0.3		-1.4	4.8	9.0-	-0.1	-0.5	9.0	-1.0	+	+	+	+	+	+		0.0				-	1	
Approximation Approximatio	anthracene	-0.1		-1.3	8.7	1.5	4.1-	7	1.	0.8	+	+	+	-		5		2.0						
1	1-methylphenanthrene	-1.3									-	7	+	+		1	-					+		
Mathematical Continue Math	2-methylphenanthrene	-0.7										7 0	-	-	+	-								
Mathematicity Mathematicit	3-methylphenanthrene	-0.7					-				-	1	-	-	+	+					24.7			
December Column	retene						- 0	2	9	1.2	+	+	+	+	+	+		0.3		4.9				-0.7
10 11 12 13 14 15 15 15 15 15 15 15	fluoranthene	-0.1		9.1-	2.8	-0.3	-0.8		0.0	2.1	+	+	+	+	+	+	-	0		6				9.0-
1 1 2 2 2 2 2 2 2 2	pyrene	0.1		-1.2	1.5	0.1	c.i.		0.7	0.0	+	+	+	+	+	+	+	5		1		-	T	62.0
1	benzo[ghi]fluoranthene	-1.0				3.8	1.0	0.1		+	+	+	-		+	+	-	-				-		
1	cyclopenta[cd]pyrene										+	+	+	+	1			0.0		0.3				0 0
1	benz[a Janthracene	-0.3		-1.5	1.5		-0.7	0.1	2.7	2.1	+	+	+	+	1	ن ز		7.0-		5		-	-	
4	chrysene	-0.2		-1.6	7.3		-0.4	0.7	8.9	5.8	+	4		-	-	2.0		4.0		7.1				
1	triphenylene	-0.1					-1.0	0.1					-	-		-							Ì	5
1	chrysene+triphenylene					-1.2						9	_					-					1	5.0
1	benzol b I fluoranthene	-0.4	-0.4	-2.3	-0.2	-3.3	1.3	-0.2	1.7		_	4.		0.7		0		0.3		4.0-	-3.3			4.0-
1. 1. 1. 1. 1. 1. 1. 1.	benzo[/]fluoranthene													-								1	1	
1	benzof k Ifluoranthene	0.2	-0.2	-0.5	-2.1		0.1	0.0	4.6							0.		0.4		0.4	5.6			=
1,1 2,1	venzolv + j + k jriuorantnene										-0.2													0
et 401 404 112 38 113 31 113 114 0.0	benzole pyrene					-1.2	0.1	-0.3		-	_			-	-	-				0.0	5.1.3			0.8
e 01 0.1	benzo[a]pyrene	-0.1	-0.4	-1.2	3.8	-1.2	0.5	0.0	=	_		_	-	-	-	-	2	-0.5		9.0		+	1	4.
ce 0.0 1.14 0.0 1.15 0.0 1.15 0.0 1.15 0.0 0.0 1.15 0.15 1.15 0.0 0.0 0.0 1.15 0.15 1.15 0.0 0.0 0.0 1.15 0.15	perylene	-0.1				-1.4	0.1	-0.1		-			_	_	-	-								
1	indeno[1,2,3-cd]pyrene	9.0-	0.0	4.1-	0.7	-1.5	0.0	6.0	-0.3	-	_	-		-	_	_		0.4		-0.4				=
4.0 4.0	benzolghi [perylene	0.5	9.0-	-1.7	-0.5	-2.0	0.1	0.4	8.0	0.5		-	-	-	-	-	2	-0.		0.2	4.0-			2 5
0.4 1.1 0.8 1.1 0.8 1.1 0.8 1.1 0.8 1.1 0.9 2.4 1.1 0.9 1.1 0.2 1.1 0.2 1.1 0.2 1.1 0.2 0.1 <td>dibenz[a,h]anthracene</td> <td>-0.5</td> <td>6.0-</td> <td>0.1</td> <td></td> <td></td> <td>7.2</td> <td>1.2</td> <td>10.5</td> <td>7.9</td> <td></td> <td>1.1</td> <td></td> <td>-</td> <td></td> <td>2.0</td> <td></td> <td></td> <td></td> <td>-0.4</td> <td></td> <td></td> <td></td> <td>7.07</td>	dibenz[a,h]anthracene	-0.5	6.0-	0.1			7.2	1.2	10.5	7.9		1.1		-		2.0				-0.4				7.07
Distributione O.4 1.4 1.4 0.8 1.4 0.8 0.8 0.2 0.8	dibenz[a,c]anthracene										-	-	-	+	-	+								
rette -14 0-1 0-1 0-1 0-2 0-1 </td <td>benzo[b]chrysene</td> <td>-0.4</td> <td></td> <td></td> <td></td> <td></td> <td>=</td> <td>-0.8</td> <td></td> <td>+</td> <td></td> <td> </td> <td>+</td> <td>-</td> <td>1</td> <td>+</td> <td></td> <td></td> <td></td> <td></td> <td>2.4</td> <td>+</td> <td>†</td> <td>0.0</td>	benzo[b]chrysene	-0.4					=	-0.8		+			+	-	1	+					2.4	+	†	0.0
1.1 0.1	coronene				4.						-1		-	,							17.7	-	0.0	4
Hy 2b(H)-29)-ordopane -0.2 1.1 -0.7 0.8 -0.3 </td <td>C20</td> <td></td> <td></td> <td></td> <td>=</td> <td></td> <td></td> <td></td> <td></td> <td>0.1</td> <td>9</td> <td>+</td> <td></td> <td></td> <td>+</td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td>2.0</td> <td></td>	C20				=					0.1	9	+			+	-						-	2.0	
1. 1. 1. 1. 1. 1. 1. 1.	C22					-0.2				=	7	+	20, 0	1							-	+	0.0	90
1.1. 4.7 6.5 1.8 6.0 6.1	C24				6.0	1.7				0.2	-	+	5	-	0-	5						+	1.00	2 -
1.1 1.8 -0.3 0.4 0.0	C26					4.7				0.5		+	.2	+	9 0	_					7.1.	+	6.0	
1.7 4.3 .0.1 .0.1 .0.1 .0.2 .0	C28				-	2.2				-0.3		+	4.		5 9	0					0.0	+	7.0	0-
Output O	C30				7.7	4.5				1.0	- 1	+	-		٩	0 0	-				200	+		2 9
Outsnorthopane 0.05 1.0 0.07 -1.4 0.0 0.0 21b(H)-29-northopane -0.8 1.4 -0.7 -1.4 -0.9 -0.9 -0.4 21b(H)-29-northopane -0.8 1.4 -0.7 -1.4 -0.9	C32				6.0	4.6				0.1		0 1	+		٩	×					0.0-	7.1.	2.0	2 -
Outsigned between the contribution of the c	C36								1				-		+							, ,	7.0	-
1.5 1.5	22, 29, 30-trisnorhopane				-0.5	0.1					-	+	+	4	+	+		-				-	200	
2 b(H)-29-lopane -0.8 1.4 -0.5 1.4 -0.5 1.4 -0.5 1.4 -0.5 1.4 -0.5 1.4 -0.5 1.4 -0.5 1.4 -0.5 1.4 -0.5 1.1 -0.5 1.1 -0.5 1.1 -0.5 1.1 -0.5 -	17a(H), 21b(11)-29-norhopane					1.5					-	7	2.		+	+					0		7.0	و ا
R-C28-methylcholestane -0.5 1.4 -0.5 1.4 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.5 -0.7<	17a(H), 21b(II)-29-hopane		Ī		-0.8	4.					+	+	+	+	+	-		-			20.2		3 -	0
1.3 1.4 1.5	ABB-20R-C28-methylcholestane				-0.5	4.						-	+	-		-	-					-	0.1	9 9
11, 2 10 11, 2 11 12 12 13 12 13 13	225-1 /a(11), 21b(H)-30-homohopan	Je				5.1							-		+	+	-						0.7	-
(11), 21b(H)-30-bishomolopane 1.0 1.2 1.1 1.	22R-1/a(H), 21b(H)-30-homohopar	Je Je				7:1					-		+	7	+	+	-						0.0	2
(11), 21b(11)-30-bishomolopane	22S-17a(11), 21b(F1)-30-bishomohop	pane				0.1						7	+	5 ,	+							T	3	1 0
trone 3.0 0.6 1172 2.9 inone 3.3 -0.1 -3.2 -1.2 inone -1.2 -1.2 -1.2 nnoic acid -1.2 -1.8 -1.8	22R-17a(H), 21b(H)-30-bishomoho	pane				0.0					-	7	+	-	+	+							-	
rone 3.3 -0.1 0.6 117.2 -2.9 inone inone -3.3 -0.1 -3.2 inone -1.2 -1.2 -1.2 inone -1.2 -1.2 -1.8 inone -1.2 -1.8 -1.8	pristane												+		+	-	-							
cene-7,12-dione 3.3 -0.1 -1.2 cene-7,12-dione -1.2 -1.4 46.8 -2.9 rid -1.8 -1.8	phytane										1	-	-	-	+						117.3	3.0		0.7
cene-7, 12-dione 0.2 -1.2 -1.8 -1.8 -1.8 -1.8	benzanthrone					3.0							0.		+		+				7:/-	2.7		3
	y-fluorenone				5.5	-0.					+		-			-						-1.2	-	1.2
-1.2	benzía lanthracene-7. 12-dione					0.2						-	4.			-	-	-			8.94	-2.9		4.1
	hexadecanoic acid								-1.2					-	-							-1.8		3.0

1			report												
Laboratory No.		1			2			3			4			5	
	Ext. 1	Part. 1	1649a	Ext. I	Part. 1	1649a	Ext. I	Part. 1	1649a	Ext. 1	Part. 1	1649a	Ext. 1	Part. 1	1649a
AHs										-					
aphthalene	0.1	0.1	0.2				0.2	0.3	0.3	1.9	0.5	0.5	0.7	0.9	4.7
luorene	0.4	0.3	0.2				0.6	0.8	1.0	2.9	0.1	0.5	1.2	0.8	1.5
henanthrene	0.0	0.1	0.1	-			0.3	0.3	0.6	0.4	0.1	1.5	1.2	1.0	0.7
nthracene	0.1	0.4	0.1				0.4	0.3	0.4		2.9	0.3	1.5	1.1	1.7
-methylphenanthrene	0.2	0.6	0.1												
-methylphenanthrene	0.1	0.1	0.1			-									-
-methylphenanthrene	0.0	0.1	0.1			-						-			-
-methylphenanthrene	0.1	0.1	0.1				-						ļ		-
etene	0.1	0.1	0.1												-
H-cyclopenta(def)phenanthr	0.1	0.1	0.1				0.3	0.1	0.4	0.4	0.2	0.6			
luoranthene	0.0	0.1	0.1				0.3	0.3	0.4	0.4	0.2	0.5	1.7	1.7	0.2
byrene	0.0	0.1	0.1	-			0.3	0.2	0.5	0.4	0.2	0.5	1.8	1.7	0.2
penzo[ghi]fluoranthene	0.0	0.0	0.0				0.7	0.3	0.6		0.1		1.7	1.5	0.4
penz[a]anthracene	0.1	0.1	0.2			+	0.3	0.2	0.6		0.1	0.3			
thrysene	0.2	0.1	0.1	ļ			0.5	0.3	0.4	0.1	1.4	0.4	1.6	1.8	0.4
nphenylene	0.1	0.2	0.2		-	-				ļ		-			
penzo[b]fluoranthene	0.1	0.1	0.0	0.7	0.2	0.4	0.3	0.2	0.4	0.4	0.5	0.5	1.0	2.2	0.7
benzo[j]fluoranthene	0.1	0.0	0.5	ļ					-				0.8	2.2	0.2
benzo[k]fluoranthene	0.7	0.0	0.1	0.6	0.2	0.6	0.4	0.4	0.3	0.0	0.2	0.3	-		
benzo[e]pyrene	0.7	0.0	0.1										1.2	1.8	0.2
benzo[a]pyrene	0.4	0.1	0.0	0.6	0.6	0.8	0.2	0.3	0.6	0.2	0.8	1.1	1.2	1.7	0.9
perylene	0.1	0.1	0.2										1.5	2.0	0.5
ndeno[1,2,3-cd]pyrene	0.0	0.1	0.1	0.2	0.5	0.4	0.2	0.2	0.3	0.4	0.1	0.6	1.3	2.1	1.9
benzo[ghi]perylene	0.0	0.1	0.0	0.6	0.2	0.4	0.3	0.2	0.4	0.1	0.3	1.0	1.4	2.2	1.3
dibenz(a,h)anthracene	0.3	0.3	0.2	0.8	0.6	1.0	0.2	0.3	0.6	0.4					
dibenz[a,c]anthracene	0.2	0.3	0.2												
benzo[b]chrysene	0.1	0.1	0.1												
coronene										0.4	0.5	1.7			
dibenzo[u,e]pyrene		1							1						
					1	1		ľ							
Nitro-PAH			-		T										
	0.6	0.6	0.8			1			1						
9-nitroanthracene		0.6		-	_			-	-	1	-		1		
1-nitropyrene	0.1	0.3	0.3	-			 	-					-		-
2-nitrofluoranthene	0.2	0.1	0.3			-	1			1			-		-
3-nitrofluoranthene		0.2	0.5		-	-	l		+				1		-
7-nitrobenz[a]anthracenc	0.2	0.3	0.2		-	-		-		1		-		-	-
6-nitrochrysene		-	-	-		-			-	 		-	-		-
6-nitrobenz[a]pyrene			-	_		-	 		-	\ <u></u>		-			+
			1	 				-	-	1				-	-
Alkanes and Alkenes		-		-	1		ļ	-	· · · · · ·	 	-	-			-
n-C20		-		ļ	+		-		-	0.4					
n-C22						-	ļ		-	I		-	2.5	1.8	0.9
n-C24			-	-		-	-		-	0.0	2.7	1.1	2.2	1.0	0.9
n-C26				ļ		1		1	-	ļ			2.4	1.3	0.6
n-C28						1				0.1	6.2	2.9	1.8	1.5	0.6
n-C30										0.1	4.0	2.0	2.4	0.9	1.4
n-C32										0.4	4.7	0.5	1.4	1.3	0.4
n-C36						1	<u> </u>		<u> </u>	<u> </u>					
Hopanes, Cholestanes, Stero	s														
22, 29, 30-trisnorhopane										0.1	1.4	1.0	1.1	1.9	0.3
17a(H), 21b(H)-29-norhopar	e												1.4	2.1	0.5
17a(H), 21b(H)-29-hopanc								,		1.4	0.5	1.1	1.5	2.2	0.4
20R-5a(H), 14a(H), 17b(H)-	holestane										<u> </u>		1.4	1.6	0.6
ABB-20R-C28-methylcholes										0.0	1.4	2.2	1.2	2.2	0.9
22° a(H), 21b(H)-30-hom		· · · · · ·			1			1					1.4	1.9	0.9
22 a(H), 21b(H)-30-horn		-	1	1	1		1	1	1				1.5	2.3	0.5
22S-17a(H), 21b(H)-30-bish				1	-			1	+	1		1	1.0	2.5	0.5
22R-17a(H), 21b(H)-30-bish					-			1		1			1.8	2.4	1.4
pristane	Полорап	-	-	1		1							1		1
-	1			-	-	+			-						
phytane	1-		3 5	-		+		+	1	-	-	0.7			
cholesterol				-		-	V	-	-	V	-	0.7	-	-	+
			1	-						-	ļ		 		+
Carbonyls and Acids	1						1		-						-
benzanthrone													1.6	1.0	1.9
9-fluorenone										0.3	1.4		1.9	1.2	2.4
anthroquinone			1												
benz[a]anthracene-7, 12-dio	ne	1											1.8	0.7	1.6
hexadecanoic acid															
	1	-							T		1				T
													TI .		1
Sugars						-			1			T			

Table 8. p scores (15%)									,								
Laboratory No.	Ext. 1	6 Post 1	1649a	Part. 1	6a 1649a	Ext. 1	7 Part. I	1649a	Ext. 1	8 Part. 1	1649a	End 1	9	1640-	E. I	10	1640
PAHs	Ext. I	Part. 1	1649a	Part. I	16492	EXC. I	Part. I	16492	EXt. I	Рап. 1	1649a	Ext. 1	Part, I	1649a	Ext. 1	Part, 1	1649a
naphthalene						0.8	0.3	0.6	0.7	0.6	0.4	1.7			0.1	5.5	
fluorene	1.3	0.3	1.0	0.5	0.3	0.4	0.3	0.3	0.7	1.4	2.0	1.3	1.4	0.3	2.1	1.7	
phenanthrene	0.1	0.3	0.5	0.2	0.6	0.5	0.2	0.2	1.3	0.3	0.2	1.0	1.6	0.2	0.1	0.3	
anthracene	1.3	0.2	0.4	6.3	0.6	0.2	0.3	0.1	1.1	0.7	0.4	1.3	1.4	0.1	0.2	0.3	
1-methylphenanthrene																	
2-methylphenanthrene												ĺ					
3-methylphenanthrene																	
9-methylphenanthrene											-						
retene	9.3	●.2	0.4	0.3	0.2												
4H-cyclopenta(def)phenanthren	e																
fluoranthene	1.3	0.3	0.4	0.1	0.5	0.5	0.2	0.2	1.4	0.3	0.7	1.1	0.1	0.6	0.2	0.3	
pyrene	0.5	0.3	0.4	0.2	0.6	0.5	0.2	0.2	1.4	0.5	0.6	1.0	0.1	0.5	0.2	0.5	
benzo[ghi]fluoranthene	0.5	0.7	0.4	0.1	0.6												
benz[a]anthraeene	0.3	0.3	0.4	0.6	0.5	0.1	0.1	0.1	1.4	0.3	0.8	0.9	0.3	0.4	0.2	0.2	
chrysene	0.3	0.2	0.5	0.2	0.5	0.5	0.2	0.2	1.4	0.2	0.7	0.8	0.2	0.3	1.1	0.2	
triphenylene	0.1	0.3	0.5	0.5	0.6	1											
benzo[b]fluoranthene	0.3	0.2	0.4	0.3	0.5	0.6	0.2	0.1	1.0	0.2	0.6	0.8	0.2	0.7	0.9	0.2	
benzo[j]fluoranthene																	
benzo[k]fluoranthene	0.3	0.8	0.6	0.3	0.5	0.6	0.2	1.3							0.1	0.2	
benzo[e]pyrene	0.3	0.3	0.4	0.2	0.4				1.2	0.2	0.6	0.8	0.1	0.5			
benzo[a]pyrene	0.3	0.3	0.4	0.2	0.5	0.6	0.4	0.4	1.3	0.1	0.8	0.8	0.1	0.5	0.2	0.3	
perylene	0.1	0.3	0.4	0.2	0.5				1.1	0.1	1.4	1.0	0.3	0.5			
indeno[1,2,3-cd]pyrene	8.3	0.3	0.4	0.3	0.5	2.8	0.3	0.1	1.1	0.2	0.4	0.4	0.2	0.6	0.1	0.5	
benzo[ghi]perylene	0.3	0.2	0.4	0.1	0.4	2.5	0.2	0.1	1.1	0.2	0.5	0.4	0.1	0.6	0.2	0.3	
dibenz]a,h]anthracene	0.3	0.5	0.2	0.2	0.5	0.2	0.2	0.2	●.2	0.3	1.0	0.7	0.5	0.4	0.7	0.8	
dibenz[a,e]anthracene				Į													
benzo[b]ehrysene	0.1	0.6	0.2	0.5	0.6	1											
eoronene						ļ							L				
dibenzo[a,e]pyrene													<u> </u>				
														1			
Nitro-PAH																	
9-nitroanthracene	4.1	0.2	0.6														
1-nitropyrene	0.6	0.7	0.1			1			l		1						
2-nitrofluoranthene	●.5	0.3	0.6														
3-nitrofluoranthene		1.4															
7-nitrobenz[a]anthraeene	0.2	0.2	0.4														
6-nitrochrysene	0.1	0.7	0.2														
6-nitrobenz[a]pyrenc	0.3	0.3	0.5][
			Ĺ		<u> </u>]											
Alkanes and Alkenes																	
n-C20				I					0.2	0.4	0.8				39.1	6.3	
n-C22				l I		1			1.3	2.1	0.5				0.6	0.7	
n-C24									0.7	1.0	0.3				0.1	0.9	
n-C26				l					0.1	0.6	0.6				0.3	0.4	
n-C28				ij					0.7	1.6	1.0				0.4	0.6	1
n-C30						-			0.6	1.4	1.0				0.3	0.7	
n-C32						ì			0.7	1.0	1.3				0.0	0.9	
n-C36												<u> </u>			1.1	2.3	
										1							
Hopanes, Cholestanes, Sterols																	
22, 29, 30-trisnorhopane																	
17a(H), 21b(H)-29-norhopane																	
17a(H), 21b(H)-29-hopane																	
20R-5a(H), 14a(H), 17b(H)-ch	olestane][
ABB-20R-C28-methyleholesta												ĺ					
22S-17a(H), 21b(H)-30-homol	порапе	1				1											
22R-17a(H), 21b(H)-30-homo																	
22S-17a(H), 21b(H)-30-bishor																	
22R-17a(H), 21b(H)-30-bishor																	
pristane									0.7	0.6	0.6						
phytane									2.5	0.4	0.1						
cholesterol																	
Carbonyls and Acids		1	T			1		1		1	1						
benzanthrone	1		1	1		1						1					
9-fluorenone	1			1													
			1	1		T .			1			1					
anthroquinone	-11-	1	_	1	+	1			1	1		li .					
anthroquinone benzlalanthracene-7, 12-dione	1																
benz[a]anthracene-7, 12-dione	-	+	1	-		87	0.4	0.4					-				1
						8.7	0.4	0.4			<u> </u>						
benz[a]anthracene-7, 12-dione hexadecanoic acid						8.7	0.4	0.4									
benz[a]anthracene-7, 12-dione						8.7	0.4	0.4									

Laboratory No.		11			12			13			14		15	
	Ext. I	Part. 1	1649a	Ext. 1	Part. 1	1649a	Ext. 1	Part, I	1649a	Ext. 1	Part. I	1649a	Part, I	1649
AHs aphthalene				0.1	1.0	0.4	0.2	0.3	0.4			-	61	2.1
uorene	1.2	0.5	0.5	0.9	3.1	0.9	0.1	0.3	0.4				1.9	2.1
henanthrene	1.0	0.4	1.0	0.8	0.2	0.2	0.5	0.1	0.2	0.1			1.2	0.7
nthracene	0.5	0.5	0.5	0.8	0.6	0.8	0.1	0.3	0.2				0.4	0.8
-methylphenanthrene	0.1	0.5	0.4	0.3	0.1	0.4	0.1	0.1	0.2					
-methy/phenanthrene	1.0	0.2	0.9	0.5	0.9	0.1								
-methylphenanthrene	0.6	0.0	0.5											
-methylphenanthrene	1.5	0.8	0.4											
rtene				0.8	0.5	0.8					-			
H-cyclopenta(def)phenanthrene			0.2	0.0	0.1	0.1	0.1	0.1					0.6	0.2
uoranthene	1.0	0.2	0.3	0.8	0.1	0.1	0.1	0.1	0.2	0.7		1	0.6	0.3
yrene enzo[ghi]fluoranthene	1.2	0.0	0.3	0.5	0.1	0.2	0.1	0.3	0.4	0.7	-		0.4	0.3
enz[s]anthracene	0.4	0.2	0.6	0.1	0.3	0.4	0.2	0.1	0.4				0.3	0.2
hrysene	0.6	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.4				0.2	0.2
nphenylone	0.0	0.5	0.2	0.6	0.4	0.2		0.7	0.1				0.2	0.2
enzo[b]fluoranthene	0.2	0.2	0.5	0.1	0.1	0.4	0.1	0.1	0.2				0.3	0.2
enzo[j]fluorunthene				0.5	0.3	0.4	0.2	0.2	0.4					
enzo[k]fluoranthene				0.5	0.1	0.4	0.1	0.1	0.4				0.4	0.1
penzo[e]pyrene	1.5	0.1	0.4	0.8	0.3	0.2	0.0	0.1	0.2				0.4	0.2
penzo[a]pyrene	0.2	0.5	0.5	0.1	0.2	0.4	0.5	0.1	0.4	0.0			0.2	0.2
perylene	0.1	0.2	0.9	1.0	1.0	0.2	0.3	0.2	0.1				0.6	0.1
ndeno[1,2,3-cd]pyrene	0.3	0.1	0.5	0.3	0.1	1.8	0.1	0.1	0.2	0.7			0.4	0.2
penzo[ghi]perylene	0.4	0.3	0.3	0.1	0.3	0.2	0.1	0.2	0.2	0.1			0.3	0.4
dibenz[a,h]anthracene	1.1	0.3	0.7	0.2	0.1	1.8	0.1	0.1	0.4				0.8	0.5
ibenz[a,c]anthracene				0.3	0.3	1.8	0.3	0.1	0.1					
penzo[b]chrysene									-		-			
coronene	0.2	0.2	0.4	0.1	0.1	0.4]							
libenzo[a,e]pyrene	1.2	1.5	0.1				<u> </u>			 				
							 					-		
Nitro-PAH		-					}	-			-			
9-nitroanthracene		-					 				-			
l-nitropyrene		-	-	-			 		-		-			
2-nitrofluoranthene 3-nitrofluoranthene							-							
7-nitrobenz[a]anthracenc								1						
6-nitrochrysene							1							
6-nitrobenz[a]pyrene														
								1						
Alkanes and Alkenes			1											
n-C20							1		1		1			
n-C22	0.6	0.4	0.4											
n-C24	0.4	0.3	1.2							0.1				
n-C26	0.4	0.5	0.2							0.1				
n-C28	0.8	0.5	0.4							0.1				
n-C30	0.4	0.2	0.7							0.1				
n-C32		1		ļ						0.5	1			
n-C36		1	-	<u> </u>	-		<u> </u>	J		ļ	1			
				<u></u>		ļ	<u> </u>	ļ	<u> </u>	ļ	<u> </u>			
Hopanes, Cholestanes, Sterols		1			L		-	-	-					
22, 29, 30-trisnorhopane				1.1	1.6	1.3	-		-		-	-		
		0.1	1.5		-	-	-	-						
17a(H), 21b(H)-29-norhopane	0.4			()			II.		-					
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane														
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho	lestane											1		
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan	lestane e													
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homoho	lestane e	0.3	1.7	0.9	2.0	2.3								
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homoho 22R-17a(H), 21b(H)-30-homoho	lestane e 1.1	0.3	0.7	0.7	0.3	0.1								
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homoho 22R-17a(H), 21b(H)-30-bishom	lestane e 1.1 0.8 0.6	0.3 0.2 0.2	0.7	0.7	0.3	0.1								
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homoho 22R-17a(H), 21b(H)-30-bishom 22S-17a(H), 21b(H)-30-bishom 22R-17a(H), 21b(H)-30-bishom	lestane e 1.1 0.8 0.6	0.3	0.7	0.7	0.3	0.1								
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5g(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homoho 22R-17a(H), 21b(H)-30-bishom 22R-17a(H), 21b(H)-30-bishom 22R-17a(H), 21b(H)-30-bishom pristane	lestane e 1.1 0.8 0.6	0.3 0.2 0.2	0.7	0.7	0.3	0.1								
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homohi 22S-17a(H), 21b(H)-30-bishomi 22S-17a(H), 21b(H)-30-bishomi 22R-17a(H), 21b(H)-30-bishomi pristane phytane	lestane e 1.1 0.8 0.6	0.3 0.2 0.2	0.7	0.7	0.3	0.1								
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homohi 22S-17a(H), 21b(H)-30-bishomi 22S-17a(H), 21b(H)-30-bishomi 22S-17a(H), 21b(H)-30-bishomi 22R-17a(H), 21b(H)-30-bishomi 22R-17a(H), 21b(H)-30-bishomi pristane phytane cholesterol	lestane e 1.1 0.8 0.6	0.3 0.2 0.2	0.7	0.7	0.3	0.1								
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homoh 22R-17a(H), 21b(H)-30-bishom 22R-17a(H), 21b(H)-30-bishom 22R-17a(H), 21b(H)-30-bishom pristane phytane cholesterol	lestane e : 1.1 0.8 0.6 0.2	0.3 0.2 0.2	0.7	0.7	0.3	0.1								
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homoho 22R-17a(H), 21b(H)-30-homoho 22R-17a(H), 21b(H)-30-bishom 22R-17a(H), 21b(H)-30-bishom pristane phytane cholesterol	lestane e 1.1 0.8 0.6 0.2	0.3	0.7	0.7	0.3	0.1								
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homohc 22S-17a(H), 21b(H)-30-bishom 22S-17a(H), 21b(H)-30-bishom 22S-17a(H), 21b(H)-30-bishom 22R-17a(H), 21b(H)-30	lestane e : 1.1 0.8 0.6 0.2	0.3 0.2 0.2	0.7	0.7	0.3	0.1								
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homoho 22S-17a(H), 21b(H)-30-bishom 22S-17a(H), 21b(H)-30-bishom pristane phytane cholesterol Carbonyls and Acids benzanthrone 9-fluorenone	lestane e 1.1 0.8 0.6 0.2	0.3	0.7	0.7	0.3	0.1								
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homoho 22S-17a(H), 21b(H)-30-bishom pristane phytane cholesterol Carbonyls and Acids benzanthrone 9-fluorenone anthroquinone	e 1.1 0.8 0.6 0.2	0.3 0.2 0.2 0.4 0.4	0.7	0.7	0.3	0.1								
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homoho 22S-17a(H), 21b(H)-30-bishom pristane phytane cholesterol Carbonyls and Acids benzanthrone 9-fluorenone anthroquinone benz[a]anthracene-7, 12-dione	e 1.1 0.8 0.6 0.2	0.3	0.7	0.7	0.3	0.1								
17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homoho 22S-17a(H), 21b(H)-30-bishom pristane phytane cholesterol Carbonyls and Acids benzanthrone 9-fluorenone anthroquinone	e 1.1 0.8 0.6 0.2	0.3 0.2 0.2 0.4 0.4	0.7	0.7	0.3	0.1								

Laboratory No.	16		17		18		19		20		21	
	Part. I	1649a	Part. I	1649a	Part. 1	1649a	Part. I	1649a	Part. 1	1649a	Part. 1	1649a
AHs												
aphthalene			2.1	2.6								
luorene			1.2	0.6							l	
henanthrene			0.6	0.5	-						l	
nthracene -methylphenanthrene			0.9	0.0	1		-					
-methylphenanthrene											ļ	
-methylphenanthrene											ļ	
-methylphenanthrene							-				l	
etene					1				2.1	4.1		
H-cyclopenta(def)phenanthrene									2.1	7.1		
luoranthene			0.7	2.6								
рутепе			0.3	2.6	1							
penzo[ghi]fluoranthene			V.5		1	-	· · · · · ·					
penz[a]anthracene			0.3	0.6	1		<u> </u>					
hrysene			0.1	9.7	1							
riphenylene					1		-					
penzo[b]fluoranthene			0.1	0.6					0.4	2.5		
penzo[j]fluoranthene									,			
penzo[k]fluoranthene			0.4	0.2					0.5	2.7		
penzo[e]pyrene									0.6	3.0		
penzo[a]pyrene			0.3	1.7			- 1					
perylene												
ndeno[1,2,3-cd]pyrene			0.3	0.6								
benzo[ghi]perylene			0.1	0.6					1.1	1.4		
dibenz[a,h]anthracene												
dibenz[a,e]anthracene												
benzo[b]chrysene												
coronene									1.9	0.6		
dibenzo[a,e]pyrene												
Nitro-PAH												
9-nitroanthracene												
l-nitropyrene	0.4											
2-nitrofluoranthene	0.5						1					
3-nitrofluoranthene												
7-nitrobenz[a]anthracene												
6-nitrochrysene]							
6-nitrobenz[a]pyrene												
Alkanes and Alkenes												
n-C20											1.2	0.4
n-C22											0.4	1.1
n-C24									4.4	2.6	1.0	1.1
n-C26									5.0	0.6	0.9	0.7
n-C28									3.6	0.6	1.2	1.2
n-C30			i						2.5	2.3	1.0	1.0
n-C32									2.3	2.7	1.3	1.0
n-C36											1.2	0.4
Hopanes, Cholestanes, Sterols						1						
22, 29, 30-trisnorhopane					1					1.7		
17a(H), 21b(H)-29-porhopane												
17a(H), 21b(H)-29-hopane										3.5		
20R-5a(H), 14a(H), 17b(H)-ch	olestane											
ABB-20R-C28-methylcholesta												
22S-17a(H), 21b(H)-30-homoh	opane											
22R-17a(H), 21b(H)-30-homol	nopane											
22S-17a(H), 21b(H)-30-bishon						1						
22R-17a(H), 21b(H)-30-bishor	nohopane					-						
pristane				-							1	
phytane		-	1	1	1		-				1	
cholesterol							<u> </u>					
					الـ							
Carbonyls and Acids												
benzanthrone									1.0	1.7	1.1	0.9
9-fluorenone											1.7	0.3
anthroquinone											1.3	0.7
									7.8	0.₫	1.8	0.1
benz[a]anthracene-7, 12-dione	1	1	1								1	
benz[a]anthracene-7, 12-dione hexadecanoic acid			II.					1				
benz[a]anthracene-7, 12-dione hexadecanoic acid			1	 	1							

Table 8. p scores (15%)				
Laboratory No.	22		23	
	Part, [1649a	Part. I	1649a
AHs				
aphthalene				
uorene henanthrene				
nthracene				
-methylphenanthrene				
etene H-cyclopenta(def)phenanthrene				
luoranthene			0.0	0.2
yrene			0.2	0.2
enzo[ghi]fluoranthene			0.1	0.2
enz[a]anthracene			0.0	0.0
hrysene	-		0.2	0.2
riphenylene penzo[b]fluoranthene			0.0	0.2
penzo[j]fluoranthene				0.2
penzo[k]fluoranthene			0.7	0.3
penzo[e]pyrene			0.3	0.2
enzo[a]pyrene			0.2	0.0
ndepol 1 2 3-edlpygene			1.8	1.3
ndeno[1,2,3-ed]pyrene penzo[ghi]perylene			0.2	0.0
fibenz[a,h]anthracene			0.3	0.2
fibenz[a,c]anthracene				
penzo[b]chrysene				
coronene			0.2	0.0
dibenzo[a,e]pyrene				
Nitro-PAH				
HIGO-FIGE				
9-nitroanthracene				
9-nitroanthracene 1-nitropyrene 2-nitrofluoranthene				
1-nitropyrene 2-nitrofluoranthene				
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene				
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene				
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrofluoranthene 6-nitrobenz[a]anthracene				
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrofluoranthene 6-nitrobenz[a]anthracene				
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrobenz[a]pyrene				
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrobenz[a]pyrene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20	0.7	0.7		
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22	0.4	0.4		0.2
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22 n-C24	0.4	0.4	0.2	0.2
1-nitropyrene	0.4	0.4	0.2 0.5 0.1	0.2 0.1 0.3
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C26 n-C28	0.4 0.2 0.3	0.4 0.5 0.4	0.5	0.1
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 3-nitrofluoranthene 5-nitrobenz[a]anthracene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C26 n-C28 n-C30	0.4 0.2 0.3 0.2	0.4 0.5 0.4 0.6	0.5 0.1	0.1
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C26 n-C28	0.4 0.2 0.3 0.2 0.2	0.4 0.5 0.4 0.6 0.7	0.5 0.1 0.0	0.1 0.3 0.7
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C24 n-C26 n-C28 n-C30 n-C32 n-C36	0.4 0.2 0.3 0.2 0.2 0.0	0.4 0.5 0.4 0.6 0.7 0.5	0.5 0.1 0.0 0.1	0.1 0.3 0.7 0.5
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrochrysene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C26 n-C28 n-C30 n-C32 n-C36 Hopanes, Cholestanes, Sterols	0.4 0.2 0.3 0.2 0.2 0.0 0.0	0.4 0.5 0.4 0.6 0.7 0.5 1.3	0.5 0.1 0.0 0.1 0.4	0.1 0.3 0.7 0.5 0.0
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 3-nitrofluoranthene 4-nitrofluoranthene 6-nitrochrysene 6-nitrochrysene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C24 n-C26 n-C28 n-C30 n-C30 n-C30 n-C30 n-C30 n-C30 n-C32 n-C30 n-C30 n-C32 n-C30 n-C30 n-C32 n-C30 n-C3	0.4 0.2 0.3 0.2 0.2 0.0 0.6	0.4 0.5 0.4 0.6 0.7 0.5 1.3	0.5 0.1 0.0 0.1 0.4	0.1 0.3 0.7 0.5 0.0
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C24 n-C26 n-C28 n-C30 n-C30 n-C30 n-C30 n-C30 1-C30 1-C30 1-C32 1-C36 1-C30	0.4 0.2 0.3 0.2 0.2 0.0 0.6	0.4 0.5 0.4 0.6 0.7 0.5 1.3	0.5 0.1 0.0 0.1 0.4 0.3 0.0	0.1 0.3 0.7 0.5 0.0
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22 n-C22 n-C24 n-C26 n-C30 n-C36 Hopanes, Cholestanes, Sterols 22, 29, 30-trisnorhopane 17a(H), 21b(H)-29-norhopune	0.4 0.2 0.3 0.2 0.2 0.0 0.6 0.1 0.1 0.1	0.4 0.5 0.4 0.6 0.7 0.5 1.3 0.4 0.4 0.4	0.5 0.1 0.0 0.1 0.4	0.1 0.3 0.7 0.5 0.0
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C24 n-C26 n-C30 n-C30 n-C32 n-C36 Hopanes, Cholestanes, Sterols 22, 29, 30-trisnorhopane 17a(H), 21b(H)-29-norhopune 17a(H), 21b(H)-29-hopane 20R-Sa(H), 14a(H), 17b(H)-cho	0.4 0.2 0.3 0.2 0.2 0.0 0.6	0.4 0.5 0.4 0.6 0.7 0.5 1.3	0.5 0.1 0.0 0.1 0.4 0.3 0.0	0.1 0.3 0.7 0.5 0.0
I-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 5-nitrobenz[a]pyrene 4-nitrobenz[a]pyrene 4-nitrobenz[a]pyrene 6-nitrobenz[a]pyrene 6-nitrobenz[a]	0.4 0.2 0.3 0.2 0.2 0.0 0.6 0.1 0.1 0.1 0.3	0.4 0.5 0.4 0.6 0.7 0.5 1.3 0.4 0.4 0.4 0.4 0.3	0.5 0.1 0.0 0.1 0.4 0.3 0.0 0.0	0.1 0.3 0.7 0.5 0.0 0.2 1.1
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C24 n-C26 n-C28 n-C30 n-C32 n-C36 Hopanes, Cholestanes, Sterols 22, 29, 30-trisnorhopane 17a(H), 21b(H)-29-norhopune 17a(H), 21b(H)-29-nopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestar	0.4 0.2 0.3 0.2 0.0 0.6 0.1 0.1 0.1 0.3 0.4	0.4 0.5 0.4 0.6 0.7 0.5 1.3 0.4 0.4 0.4 0.4 0.5 0.5	0.5 0.1 0.0 0.1 0.4 0.3 0.0 0.0 0.0 0.0	0.1 0.3 0.7 0.5 0.0 0.2 1.1 0.2 7.4 0.3
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrochrysene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C26 n-C26 n-C28 n-C30 n-C32 n-C30 n-C32 n-C30 n-C32 n-C36	0.4 0.2 0.3 0.2 0.0 0.0 0.6 0.1 0.1 0.1 0.3 0.4 0.1 0.1	0.4 0.5 0.4 0.6 0.7 0.5 1.3 0.4 0.4 0.4 0.3 0.6 0.4 0.5 0.4	0.5 0.1 0.0 0.1 0.4 0.3 0.0 0.0 0.0 0.1 0.3 0.0 0.0	0.1 0.3 0.7 0.5 0.0 0.2 1.1 0.2 7.4 0.3 0.4
I-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 5-nitrochenz[a]aptrene 5-nitrobenz[a]pyrene Alkanes and Alkenes 1-c20 1-c22 1-c24 1-c24 1-c24 1-c24 1-c24 1-c25 1-c30 1-c32 1-c36 1-c31 1	0.4 0.2 0.3 0.2 0.0 0.6 0.1 0.1 0.1 0.3 0.4 0.1 0.1 0.1	0.4 0.5 0.4 0.6 0.7 0.5 1.3 0.4 0.4 0.4 0.3 0.6 0.4 0.5 0.4	0.5 0.1 0.0 0.1 0.4 0.3 0.0 0.0 0.0 0.0	0.1 0.3 0.7 0.5 0.0 0.2 1.1 0.2 7.4 0.3
I-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 5-nitrochrysene 5-nitrochrysene 5-nitrochrysene 6-nitrochrysene	0.4 0.2 0.3 0.2 0.0 0.6 0.1 0.1 0.1 0.1 0.1 0.1 0.3 0.4 0.1 0.1	0.4 0.5 0.4 0.6 0.7 0.5 1.3 0.4 0.4 0.4 0.3 0.6 0.4 0.5 0.4 0.5 0.7 0.5 1.3	0.5 0.1 0.0 0.1 0.4 0.3 0.0 0.0 0.0 0.1 0.3 0.0 0.0	0.1 0.3 0.7 0.5 0.0 0.2 1.1 0.2 7.4 0.3 0.4
I-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrochrysene 6-nitrochrysene 1-nitrobenz[a]pyrene Alkanes and Alkenes 1-c20 1-c22 1-c24 1-c24 1-c26 1-c28 1-c30 1-c30 1-c32 1-c36 1-c30 1-c32 1-c40	0.4 0.2 0.3 0.2 0.0 0.6 0.1 0.1 0.1 0.3 0.4 0.1 0.1 0.1	0.4 0.5 0.4 0.6 0.7 0.5 1.3 0.4 0.4 0.4 0.3 0.6 0.4 0.5 0.4	0.5 0.1 0.0 0.1 0.4 0.3 0.0 0.0 0.0 0.1 0.3 0.0 0.0	0.1 0.3 0.7 0.5 0.0 0.2 1.1 0.2 7.4 0.3 0.4
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22 n-C22 n-C24 n-C24 n-C26 n-C30 n-C30 n-C30 n-C30 n-C30 n-C32 n-C36 Hopanes, Cholestanes, Sterols 22, 29, 30-trisnorhopane 17a(H), 21b(H)-29-norhopune 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestane 22R-17a(H), 21b(H)-30-homoh 22R-17a(H), 21b(H)-30-bishom 22R-17a(H), 21b(H)-30-bishom pristane	0.4 0.2 0.3 0.2 0.0 0.6 0.1 0.1 0.1 0.1 0.1 0.1 0.3 0.4 0.1 0.1	0.4 0.5 0.4 0.6 0.7 0.5 1.3 0.4 0.4 0.4 0.3 0.6 0.4 0.5 0.4 0.5 0.7 0.5 1.3	0.5 0.1 0.0 0.1 0.4 0.3 0.0 0.0 0.0 0.1 0.3 0.0 0.0	0.1 0.3 0.7 0.5 0.0 0.2 1.1 0.2 7.4 0.3 0.4
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C24 n-C26 n-C28 n-C30 n-C32 n-C36 Hopanes, Cholestanes, Sterols 22, 29, 30-trisnorhopane 17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-30-homoh 22R-17a(H), 21b(H)-30-homoh 22R-17a(H), 21b(H)-30-bishom pristane phytane cholesterol	0.4 0.2 0.3 0.2 0.0 0.6 0.1 0.1 0.1 0.1 0.1 0.1 0.3 0.4 0.1 0.1	0.4 0.5 0.4 0.6 0.7 0.5 1.3 0.4 0.4 0.4 0.3 0.6 0.4 0.5 0.4 0.5 0.7 0.5 1.3	0.5 0.1 0.0 0.1 0.4 0.3 0.0 0.0 0.0 0.1 0.3 0.0 0.0	0.1 0.3 0.7 0.5 0.0 0.2 1.1 0.2 7.4 0.3 0.4
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrochrysene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C24 n-C26 n-C28 n-C30 n-C32 n-C36 Hopanes, Cholestanes, Sterols 22, 29, 30-trisnorhopane 17a(H), 21b(H)-29-norhopune 17a(H), 21b(H)-29-nopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homoht 22R-17a(H), 21b(H)-30-homoht 22R-17a(H), 21b(H)-30-bishom pristane phytane	0.4 0.2 0.3 0.2 0.0 0.6 0.1 0.1 0.1 0.1 0.1 0.1 0.3 0.4 0.1 0.1	0.4 0.5 0.4 0.6 0.7 0.5 1.3 0.4 0.4 0.4 0.3 0.6 0.4 0.5 0.4	0.5 0.1 0.0 0.1 0.4 0.3 0.0 0.0 0.0 0.1 0.3 0.0 0.0	0.1 0.3 0.7 0.5 0.0 0.2 1.1 0.2 7.4 0.3 0.4
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrochrysene 6-nitrochrysene 6-nitrochrysene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C26 n-C28 n-C30 n-C32 n-C30 n-C32 n-C36 Hopanes, Cholestanes, Sterols 22, 29, 30-trisnorhopane 17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-20R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homoh 22R-17a(H), 21b(H)-30-bishom pristane phytane cholesterol Carbonyls and Acids	0.4 0.2 0.3 0.2 0.0 0.6 0.1 0.1 0.1 0.1 0.1 0.1 0.3 0.4 0.1 0.1	0.4 0.5 0.4 0.6 0.7 0.5 1.3 0.4 0.4 0.4 0.3 0.6 0.4 0.5 0.4	0.5 0.1 0.0 0.1 0.4 0.3 0.0 0.0 0.0 0.1 0.3 0.2 0.9	0.1 0.3 0.7 0.5 0.0 0.2 1.1 0.2 7.4 0.3 0.4 0.0
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrochrysene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C24 n-C26 n-C30 n-C32 n-C36 Hopanes, Cholestanes, Sterols 22, 29, 30-trisnorhopane 17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-10R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homoho 22S-17a(H), 21b(H)-30-bishom pristane phytane cholesterol Carbonyls and Acids benzanthrone 9-fluorenone anthroquinone	0.4 0.2 0.3 0.2 0.0 0.6 0.1 0.1 0.1 0.1 0.1 0.1 0.3 0.4 0.1 0.1	0.4 0.5 0.4 0.6 0.7 0.5 1.3 0.4 0.4 0.4 0.3 0.6 0.4 0.5 0.4	0.5 0.1 0.0 0.1 0.4 0.3 0.0 0.0 0.0 0.1 0.3 0.0 0.0 0.0 0.1 0.3 0.0 0.0 0.0	0.1 0.3 0.7 0.5 0.0 0.2 1.1 0.2 7.4 0.3 0.4 0.0 0.3
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrochrysene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C24 n-C26 n-C28 n-C30 n-C32 n-C36 Hopanes, Cholestanes, Sterols 22, 29, 30-trisnorhopane 17a(H), 21b(H)-29-norhopune 17a(H), 21b(H)-29-norhopune 17a(H), 21b(H)-30-bishom 22R-17a(H), 21b(H)-30-bishom 22R-17a(H), 21b(H)-30-bishom pristane phytane cholesterol Carbonyls and Acids benzanthrone 9-fluorenone anthroquinone benz[a]anthracene-7, 12-dione	0.4 0.2 0.3 0.2 0.0 0.6 0.1 0.1 0.1 0.1 0.1 0.1 0.3 0.4 0.1 0.1	0.4 0.5 0.4 0.6 0.7 0.5 1.3 0.4 0.4 0.4 0.3 0.6 0.4 0.5 0.4	0.5 0.1 0.0 0.1 0.4 0.3 0.0 0.0 0.0 0.0 0.1 0.3 0.2 0.9 0.9	0.1 0.3 0.7 0.5 0.0 0.2 1.1 0.2 7.4 0.3 0.4 0.0 0.3
1-nitropyrene 2-nitrofluoranthene 3-nitrofluoranthene 7-nitrobenz[a]anthracene 6-nitrochrysene 6-nitrochrysene 6-nitrobenz[a]pyrene Alkanes and Alkenes n-C20 n-C22 n-C24 n-C24 n-C26 n-C30 n-C32 n-C36 Hopanes, Cholestanes, Sterols 22, 29, 30-trisnorhopane 17a(H), 21b(H)-29-norhopane 17a(H), 21b(H)-29-hopane 20R-5a(H), 14a(H), 17b(H)-cho ABB-10R-C28-methylcholestan 22S-17a(H), 21b(H)-30-homoho 22S-17a(H), 21b(H)-30-bishom pristane phytane cholesterol Carbonyls and Acids benzanthrone 9-fluorenone anthroquinone	0.4 0.2 0.3 0.2 0.0 0.6 0.1 0.1 0.1 0.1 0.1 0.1 0.3 0.4 0.1 0.1	0.4 0.5 0.4 0.6 0.7 0.5 1.3 0.4 0.4 0.4 0.3 0.6 0.4 0.5 0.4	0.5 0.1 0.0 0.1 0.4 0.3 0.0 0.0 0.0 0.1 0.3 0.0 0.0 0.0 0.1 0.3 0.0 0.0 0.0	0.1 0.3 0.7 0.5 0.0 0.2 1.1 0.2 7.4 0.3 0.4 0.0 0.3

ng/g (reported as if three figures were significant)	igures w	ere signi	ificant)			+	+	-	+	-						-							
PAHs								+					+	1		+		-			Evercise /	ssigned	
Laboratory No.							-	0	0	+	+	+	+	+	+	+-	+	+	+	+	Assigned s	S	%RSD
received after initial data review	77.7	200	74.3	145	2471		1	293	AN	113	AM	AN	8 909	812 NA	A 145	S NA	1473	NA NA	Ϋ́	٧	443	281	63.4
naphrnalene	138	143	Ç	160	124	T	-	62.0	-	+	\vdash	-	-	-	-	-	-	-		H	135	22	41.1
nhenanthrene	2145	2095	423	1198	2816	1.	1660	953	-	1136		-	Н	-	-	-	7 8550	+	-	+	1871	240	29
printing	214	195	42.3	139	815		-	121	_	H		Н		4	+	-	+	+	+	+	506	100	48.6
I methylnhenanthrene	269	291	Ą	4X	AA		-	Y.	-		-	Н		-	-	-	-	\dashv	-	+	327	96	29.4
2-methylnhenanthrene	513	539	4×	Ą	¥		_	¥					-		-	+	+	+	+	+	21,	22	73.6
3-methylphenanthrene	349	391	AN	ΑN	Ą		_	¥				-	-	-	-	+	+	+	+	+	440	3	
O-methylphenanthrene	below	below	Ą	A'N	Ā	Ą	_	¥	-	_	_	-	-	4	-	+	+	+	+	+	2	assigned value	aine
9-inculy pricing inches	268	219	AN	AN	AN	T	1_	A N	-	-	_		_	4	-	-	-	+	+	+	244	not calc	
of the life and th	73.6	232	AN	ΑN	828		_	¥2	-	-	-		_		_	\dashv	-	-	-	+	329	592	
4H-cvclonenta(de/)nhenanthrene	129	¥.	¥	AN	Ą		_	AN	_	-	-	-		_	-	-	-	-	-	+	ON I	ass	alue
fluoranthene	4915	5105	1324	3870	4844		-	2863	-		-	\vdash	-	-	+	-	+	+	+	¥.	4753	35	2
nytene	3256	3577	888	2420	3408	$\overline{}$	<u> </u>	2117	_	H		-		-	-	-	+	+	-	+	31/4	424	4 .
henzolohi Huoranthene	1140	1106	A	AN	¥		_	Y.	H	-	-	-	_			-	-		-	-	1095	5	4./
conformately distress	213	209	AX	AN N	8059		1-	A N	-	-	┝	-	-	_		-	-	-	+	-	ž	assigned value	alue
henzia lanthracene	1735	1801	486	1062	1463	1.	-	AN		\vdash	\vdash	-	_	_	_		-	\dashv	-	\dashv	1798	461	26
out of the second	helow	5197	1190	2745	below		-	4140	H	-	-	\vdash	-	-	-		-		-		4526	937	21
tin yatır	wolad	1153	A Z	A N	Ą		-	AN	-	-	-	-	-	-	H	-	-	_	_	-	1167	not calc	
chrosenettinhenvlene	5038	¥	¥	AN	5271	1-	+-	AN	-		-	H	-		-	_	-	-	-	¥	6125	1471	24
benzol b Ifluoranthene	5349	6058	2155	4329	3838	8604	-	5347	-	-	-	-				-	-		-	-	6345	1635	56
benzo[/]fluoranthene	2247	2794	Ą	ΑN	Ą		-	ΑN	-	-						+	-	-	-	-	2424	320	13
benzofk Ifluoranthene	2168	2496	1034	1755	3299	2657	 _	3960	L	-					H		-	-		+	2370	332	4
benzo[b+j+k]fluoranthene	¥	AN	¥.	Ą	Ā		-	¥.	_	-	-	_		_	-	-	-	-	-	-	2		value
benzol e Ipyrene	3913	4379	A A	Ą	AA	3916	_	3323	-	-	-	-	_	_	-	-	+	-	-	¥	4309	1095	52
benzo[a]pyrene	2253	2263	866	1835	1243	Т	-	1413	-	-		H	_	_	-	-	\dashv	+	-	-	2085	999	32
perviene	622	626	AN	¥	ΑN			669		-	\vdash			_	-	-	-	-	-	\dashv	222	163	29.4
indeno[1,2,3-cd]pyrene	4185	4270	1777	2784	4402	4156	-	2650	-	-	-				Н	Н	-	-	+	¥	4173	1334	32
benzo[ghi]perylene	5039	5169	2392	3660	5974	Γ.	ļ	3877	_	-	Н	Н	Ц		\dashv	-	-	-	-	+	4761	1279	27
dibenz[a.h]anthracene	520	ΑN	158	248	pelow			553			Н		4	-	+	-	\dashv	-	+	-	410	198	48.2
dibenz[a.c]anthracene	261	271	Ϋ́	ΑN	ΑA	AA		ΑN	-	+	-	+	-	+	+	+	+	+	+	₹:	249	29	11.7
dibenz[a,h+a,c+a,j]anthracene	¥	Y.	¥.	¥	¥.	Т	4	¥.	+	+	+	+	+	+	+	+	+	+	+	+	S Z	assigned value	allie
dibenz[a,h+a,c]anthracene	A S	NA C	Y S	Y S	649	7	-	Z Z	+	+	+	+	+	+	+	+	+	+-	+	+	292	not calc	
penzolo jemysene	2075	2164	Z Z	Z Z	1643		+-	Z Z	+-	╁	+	+-	+	Z V	+	-	+	+-	-	Ϋ́	2230	1488	2.99
dibenzo[a.e]pyrene	301	NA	AA	AN	290	AA	\vdash	NA	Н	\vdash	\vdash	Н	Ц	Н	\vdash	Н	-	Н	-		295	not calc	
Nitro-PAH ANALYSES								+		+	+	1		+	+	-					Eversice Assigned	ceioned	
Laboratory No.							-		0	ç	+	+	+	+	+	+	+	+	+	-	Assigned	Dailing of	%RSD
leceived affer fillial data feview	- 6,	PIV	2 4	200	7 14	100	VIA	2 2	VIA	2 4	+	1	╀	╀	1	-	╁	1	1	+	126	9	4 9
7-miroanuracene	108	2 2	4	4 2	2 2	5 5	42	4	Z Z	Y AN	+	+	+	+	+	+	+	+	-	+	184	20	10.6
7 site of security	25.6	2 2	2 2	2 2	2 2	346	VIV	NA NA	AN	42	+	+	+	+	+	+	+	+	-	+	342	8	2.4
7-mitrofluoranthene	256	Y Y	Y Y	Y A	Z Z	240	Y AN	Y Y	Y Y	Y Y	Y X	S &	Z Z	NA AN	3.66 NA	Y Y	Ž	Y X	AN.	¥	No.	assic	alue
7-nitrobenz[a]anthracene	34.6	¥	A	AN	AN	45.0	A N	¥	AA	AX	+	-	-	╀	-	1	+	-		-	35.5	9.1	25.6
6-nitrochrysene	2.14	Y.	Ϋ́	ΑN	ΑN	<2.64	A'N	NA A	¥.	A'A	-	-	-	\vdash	L	-	-	-		-	2.32	0.26	11.0
6-nitrobenzo[a]pyrene 312 NA NA NA NA	312	A'N	A'N	AN	AN	24.3	AN	Y.	A A	AN				-			-			H	No	assigned value	alue
Note: Bolded values were not used in	the calcula	tion of the	exercise as	ssigned val	ues.								-		-								

Alkanes and Alkenes	_		_					-									+			+	O.io.	Parairo Accionad	
Laboratory No.													-			+	+	+	+	+		na infiner	%RSD
* received after initial data review	1	1a	-	За	4	9	-	8	1	9	=	12	13	15.	16	+	+	-	20 20	77	76	۰	35
n-C20	1942 F		H	Н	871	NA NA	-	1283	+	40828	_	15464	Y.	¥:	¥.	+	+	+	+	+	7789	8536	110
n-C21			-	-	¥	¥	-	3423	+	+	+	20202	¥ :	¥ :	4	+	+	- -	- -	+	1	10347	112
n-C22	4567	_	NA A	NA	ΑA	¥	4987	6177	¥	-	<u>_</u>	3145/	Y :	YZ :	Ž:	¥ :	¥ :	¥ 2	2111	20000	1	+	g
n-C23	10067		-	-	¥	¥	-	21767	+	-	-+	45289	Y.	Ž.	Ž:	+	+	+	+	+	+	+	120
n-C24	7976	NAN N	- AN		A	¥	-	9490	+	+	۵	61055	Y Y	¥.	¥.	AN :	+	+	+	+	+	+	1 5
n-C25	13201	-	-	ΝA	NA	¥		10567	-	-	\dashv	79182	Y.	¥ Z	¥	+	+	+	+	+	+	20203	67
n-C26	L	H	-	-	A'N	¥	-	8640	-	635504	_	74170	ΑN	۷ Z	¥	4	+	+	+	+	4	+	77
273	-	+	\vdash	H	AN	¥	-	0060	-	446829	-	69920	AN	AA	¥	_		\dashv	\dashv	-	4	24360	112
- 0	+	ł	-	AN	8050	A	-	7250	-	-	62829	72449	Ā	¥	NA A	_	_	-	-	-	_	+	135
n-C28	+	+	+	+	200	S V	+	15200	+	383083	+-	66524	AN	¥	Y.	-	-	-	-	-	_	_	93
n-C29	+	+	¥ :	¥ :	V	¥ .	+	0000	+	+	1.	31873	AM	d Z	AN	+	+	+	1953 1745	15 7813	19254	22840	119
n-C30	4	+	+	+	37930	¥	+	nono	+	+	+	2010		4	414	+	+	+	╀	+	-	-	29
n-C31	26879 h	¥	-	_	¥	Ā	-	14933	+	140367	\dashv	2581/	¥.	Y :	¥.	+	+	+	3203	+	1	+	115
n-C32	9850		-	_	15014	¥	_	4343	-	45962	-	12969	A A	¥ Z	¥	+	+	+	+	+	0	200	
n-C40	<2000	¥.	_	AN	¥	AA	<u>_</u>	¥ V	¥	¥	Y Y	Y.	A A	Y Y	¥	+	+	+	+	+		No assigned value	anne.
n-C44	┡	+	-	AN	¥	¥	_	¥	Ą	A	¥	N A	¥	¥	¥	_	-	-	NA NA	+		No assigned value	alue
Consistence	1	-	┞	H	¥	NA N	¥	A	ΑN	Ą	¥	Ϋ́	Ā	Ą	AM	Ą	_	_	Ž	-		o assigned v	alue
-octadecene	-	+	╁	+	1602	A'N	AN	A	AA	AA	NA	A	A	AN	NA	-	-	-	NA	۸		No assigned value	alue
	-		_				_		-														
Honanes, Cholestanes, Sterols								-															
Laboratory No.		-					-		-							_	_	-	-	-		Exercise Assigned	
received after initial data review	-	\vdash	H	3a	4	9	7	80	6	10	11	12	13	15.	16	-	-	╣	20 21	. 52	Š	s	%RSD
17a(H)-22_29_30-trisnorhopane	ΑN	Y A	AN	-	925	Ϋ́	ΑN	ΑĀ	NA	ΑN	NA	2172	¥.	NA A	¥		4	H		\dashv	-	716	ű
17a(H) 21h(H)-29-norhonane	-	+	\vdash	+	ĄN	¥	AN	¥	AN	Ą	¥	1639	Ā	Ą	N A			_	-	\dashv	4	not calc.	
17a(H), 21b(H)-29-hopane	H	+	H	+	AN	¥	AN	¥	AN	¥	¥	7849	A A	AA	NA A		\dashv	-	107 NA	2700		3158	75
20R-54(H), 14b(H), 17b(H)-cholestane	Ϋ́Z	-	ΑN	H	303	¥Z	¥Z	¥	AN	¥	¥	A N	A	A	¥	_	-	\dashv	4	\dashv	408	not calc.	
20S.54(F), 14b(h), 17b(F), cholesune	-	-	-	-	AN	¥	ΑN	A	Y Y	¥	¥	Ϋ́	ΑA	AA	A		-	-	-	427		No assigned value	alue
20R-5a(H), 14a(H), 17a(H)-cholestane	+	┝	-	H	929	AN	Ą	¥	ΑZ	Ą	¥	Ϋ́	AA	Ą	Ą		-	-		\dashv	437	207	47
20R. Safth, 145(H), 17b(H)-creostune	-	-	-	AN	331	¥	AN	¥	ΑN	AN	¥	Ϋ́	AA	AA	A	-	-	\dashv	+	-	-	67	7
225-174(H), 216(H)-30-homohopune	H	\vdash	-	\vdash	AN	Ϋ́	ΑN	AA	ΑA	¥	¥	1779	AA	¥.	¥.	+	+	+	+	+	+	not calc.	
22R-17a(H), 21b(H)-30-homohopune	_	-		NA	ΑN	ΑA	AN	¥	ΑN	Y V	ž	1638	¥	¥	¥.	+	+	+	+	+	4	not care.	
(H), 21b(H)-30-bishomohopane	Y Y	¥	¥	Y.	Y.	¥	¥.	¥:	¥:	¥:	¥:	7463	¥ :	¥ S	Y S	Y S	Y S	X X	AN AN	740	2773	of calc	
22R-17a(H), 21b(H)-30-bishornohopane	+	+	+	AN:	A S	Y S	Y S	A S	Y S	Y S	+	446502	Z V	Z d	Z AZ	+	+	+	+	+	+	409	63
pristane	+	+	+	A A	Y A	¥ 2	840	378	Y Y	Z Z	+	395516	Z Z	Z Z	¥ X	+	+	╁	+	400	919	262	
cholesterol	+	+	+	+	3809	Y Y	A N	¥	AN	¥	1	¥.	AA	A A	AA	H		H	H	\sqcup		No assigned value	alue
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Carbonyls and Acids									+		Ì		+			-				-	Evereice	Assigned	
Laboratory No.	-	-	+	33	4	ď	7	α	σ	10	1	12	13	15*	16	+	+	+	+-	\perp	Assign	Assigned s	%RSD
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9-fluorenone	¥	+	+	+	1795	+	¥	A A	Ϋ́Z	¥	ž	¥	¥	A N	AA	H		-	NA 22	Ш		No assigned value	alue
anthroquinone	-	H		\vdash	2884	\vdash	¥	¥	Ϋ́	¥	¥	Ϋ́	AA	Ą	Ą			-	+	_		No assigned value	alue
benz[a]anthracene-7, 12-dione	H			-	1422		Ą	Ā	ΑN	AN	Ā	4570	AA	¥	¥.	-	-	+	+	-	2575	1606	ě.
G-nonanoic lactone	AN	- VA	A A	¥ Z	ΑĀ	ΑN	Ą	¥	ΑA	Ą	¥	¥	¥	¥	¥.	+	+	+	+	4	1	No assigned value	alue
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9-anthraldehyde	+	+	-	+	Y Y	-	¥	¥	¥	¥.	¥:	¥.	¥.	¥:	¥:	+	+	+	+	4	-	o assigned v	and a
syringaldehyde	ď.	¥:	+	+	4232	¥:	Y S	¥:	Y S	Y S	¥ S	Z S	X X	Z S	Z S	+	+	+	+	1		No assigned value	alue
pimane acid	+	+	+	+	2 2	+	2 2	¥ 5	2 4	2 4	2 2	2 2	4	Y A	AN	+	+	+	+-	-		No assigned value	aine
tsopimanc acid	+	+	+-	+	Z Z	+	Z Z	Z Z	Y Y	Y Y	Y Y	Y X	¥	¥	¥	H	-	+	+-	-		No assigned value	aine
pinonic acid	+	+	+	+	18221	╁	¥	¥	AN	¥	¥	A'N	¥	AN	¥				\vdash			No assigned value	
hexadecanoic acid	-	-	-	T	118168	-	04000	¥	AN	AN	¥	Ϋ́	Ą	Ą	A A		-		-	_	10468	104682 13158	13
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nopilione	+	+	+	V V	Z A	+	Z A	Y A	Q Z	Z Z	Z Z	Z Z	Y Y	ž	Y X	+	+	+	+	L		o assigned v	alue
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Phenols			-					-	-												Exercise Assigned	
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* received after initial data review	-	19	e	3a	4	9	7	8	6	01	11	71	2	-	-{	-	-	-	1	1		
	AIA	VIV	VIA	ΔN	ΔN	AN	AN	Ϋ́	other	AN	Ϋ́	Y Y	- AN	_	Y Y	¥ V	-	Y Y	-	ž	No assigned value	value
syringol	+	+		2 4	414	N N	V.V	+	125	AN	A Z	4Z	Y.	Y Y	AN AN	-	-	¥	¥	¥	No assigned value	value
4-ethylsyringol	-	+	5	+	2 3		2 4	+	1150	ΔN	ΔN	AN	AN	-	NA NA	-	AN	¥	¥	Ϋ́	No assigned value	value
isoeugenol	-	+	Y.	+	4129	¥ :	1	+	500	2	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	AIN	AN	+	+	AN	+	+	Ž	¥	No assigned value	1 value
propionylsyringol	¥	VA V	¥	Ϋ́	¥	AA	¥	¥ Z	200	1	5	2	+	+	+	+	+	-	+	AN	No assigned value	value
humalominaol	AN	¥	¥	¥	¥	¥	Y Y	¥	<159	ΑN	¥	¥	+	+	+	+	+	+	+		Cultur boundance als	orden l
Duty i yishimgoi	-	+	VIV.	VIV	MA	ΔN	ΔN	AN	<1212	¥	¥	¥	٧	Z Y Z	Y Y	Δ - 4	A A	Y Z	-	ž	NO designed	Value
guaiacol	+	+	<u> </u>	2		4	VIV	+	other	ΔN	AN	AN	Ą	Y X	AN AN	¥	AN	¥	¥	¥ Z	No assigned value	value
4-methylguajacol	¥	 Y	¥	Z Z	Z A	¥	4	+	i i	2				t	+	+	-	2	VIV	AIN	No assigned value	l value
4 ethylmaiacol	¥	¥	ΑN	AN	Y'N	Y.	Y Y	AN	<159	¥	AA	NA	AN	NA NA	-	-	+	1	1			
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	1	-			-																	
Sugars						-	-						-								Exercise Assigned	
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					27.01.7	VIA	VIA	VIA	27640	AIA	ΔN	AN	ΔA	¥	Z - V	AZ AZ	AN A	₹	56123	S N	-	

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ng/g (reported as if three figures were significant)	ures were s	ignificant		-				+		-	-											
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received after initial data review	-	1a 3		Н	\mathbb{H}	9	7 8	6	H		H	-	_		17	18	19	20	21*	22	- 11	95%CL lype
naphthalene	1020 10	1045 220	-	H	-	Н	-		-	-	-	+	+	+	227	¥:	6099	¥:	Ž:	Y.	no target	
fluorene	228 2	-	-		-	-	230 150	-	-	+	+	+	+	+	¥ S	¥ :	3320	¥ :	¥ :	Y S	230	50 Reference
phenanthrene	4172 46		-	+	-	-	-	+	+	-	+	+	+	+	3843	4/40	7322	¥ ×	Z Z	2 4	4140	Sro Certified
anthracene	+	+	+	+	_	+	+	6	A 636	+	493 1142	25	359	+	423	2 2	VAN	¥ 2	Z AZ	Z Z	3700	40 0 Reference
-methylphenanthrenc	+	+	+	+	+	+	YZ S	+	+	+	+	+	+	2 2	4	Z Z	Y Y	¥	Z Z	×	730	12
2-methylphenanthrene	753 9	+	+	+	+	+	+	+	+	+	+	+	+	2 2	Z V	Z AZ	AN	AN	Ą	ž	200	50 Reference
3-methylphenanthrene	+	+	+	+	+	+	+	+	Y Y	+	+	+	+	2 2	2 2	4	Z Z	AN	ĄZ	Ą	no target	
9-methylphenanthrene	-	-	+	+	+	+	Y S	+	+	+	¥ ×	+	+	+	2	V V	NA.	ΔN	NA	AN	no tarron	Target
9+4-methylphenanthrene	+	+	+	+	+	1	\perp	+	+	+	+	+	+	+	2 2	Z Z	AN	\$0C>	AN A	Y.	no target	Target
retene	+	+	+	+	+		AN 009612	+	4	+	+	+	2 2	+	2	4	Y A	AN	Y Z	ž	320	60 Reference
4H-cyclopenta(def)phenanthrene	+	+	+	+	+	7	AN COS	+	+	AN 2002	AN 72.47	+	+	+	2002	080	11667	Y Y	Y AN	AN A	6450	180 Certified
Auoranthene	+	+	+	+	+	+	+	+	+	+	+	+	+	+	9070	0387	7043	Z V	NA N	4N	2500	250 Certified
pyrene	+	-	+	+	+	+	288 2360	200	+	+	48 5128	+	+	+	7007 VIV	AN AN	AN AN	Y A	Y A	Y.	088	20 Reference
benzo[ght]fluoranthene	+	+	+	+	+	200	+	+	¥ 4	1 4	+	+	+	2 2	¥ V	Y Y	AN A	Ą	AN	ž	no target	Target
cyclopental ca Jpyrene	7377	202 NA	45 1807	+	+	1.	NA NA	+	+	+	-	+	-	+	2330	¥	2867	¥	¥	Ą	2210	73 Certified
בותות לפונות שבבווב	+.	+	+	+	+	+	-	+	-	F	-	+		+	3384	6930	7610	¥	Ą	AN	3049	60 Certified
cinysene	+-	+	+	+	+	+	+	+	H	H	+	+	+	╀	¥.	Y Y	¥	¥	Ą	ΑN	1357	54 Certified
chrysene+triphenylene	+	+	+	-	+	+-	NA	-	AN	+	╀	-	+	-	¥	¥	Ϋ́	NA NA	Ϋ́	Ą	no target	Target
benzof b Ifluoranthene	-	H	-	-	-	7510 68	-	├	A 8495	95 below	wo below	ow 5877	7 5110	¥	6757	¥	10017	1913	¥.	٧	6450	640 Certified
benzol/ Ifluoranthene	+	+	-	+	-	╀	H	-		A below	ow below	ow 1668	-	-	¥	Ϋ́	2650	ΑN	Ą	¥	1500	400 Reference
benzofk fluoranthene	+	-	+	-	\vdash	2138 27	-	NA NA	A 2214	14 below	wo below	ow 1834	-	_	1852	Ϋ́	3097	2970	Ą	¥	1913	31 Certified
benzo[b+j+k]fluoranthene	+	+	-	-	╁	-	AN	Ā	-	A 8430	30 17872	-	-		ΑN	Ϋ́	Ϋ́	AN	Ϋ́	¥	no target	Target
benzo[e]pyrene	2980 3	3199 NA	A A	Ą	-	2995 N	_		A 3646	-	-		-	Н	¥	¥	9253	2013	¥	¥	3090.0	190 Certified
benzo[a]pyrene	-	-	-	-	2086 23	2	583 2020	-		54 2501			H		2109	¥	3820	ž	¥	¥	2509	
perylene	638 7	715 NA	A	A A	-	524 N	_	_	_			_		_	Y.	ž	ž	¥	¥.	¥ V	646	75 Certified
ndeno[1,2,3-cd]pyrene	-	3031 2311	11 2610	H	-	e	583				-	-	+		2982	ž	4903	236	¥	ΑN	3180	720 Certified
benzo[ghi]perylene	-					4				-	-	-		\dashv	3400	¥	5933	2470	¥	¥	4010.0	910.00 Certified
dibenz[a,h]anthracene			-		_	425 50	_	_		3 below	low below		-	\dashv	714	¥	883	¥	¥ Z	¥	288.0	23.0 Certified
dibenz[a,c]anthracene	Н	Н	Н	Н	4	-	AN AV	\dashv	A A	_	-	-	+	ž	ž	¥.	¥	¥:	¥.	¥:	200	25 Certified
dibenz[a,h+a,c+a,j]anthracene	Y V	-	+	+	+	-	+	+	+	\dashv	+	+	+	¥:	¥:	₹ :	Y :	¥.	₹:	Y S	no target	
dibenz[a,h+a,c]anthracene	+	+	+	+	+	-	+	+	+	+	NA 85	Y S	+	¥ S	¥ ×	¥ S	Z Z	¥	Z Z	2 2	715	13 Certified
benzo[b]chrysene	312 3	319 NA	A A	+	NA S	164	A A	Y S	Y Y	+	NA NA	+	¥ 2	¥ Z	¥ A	Y Y	¥ ¥	1079	Y Y	Y Y	o tarret or	Taroet
dihenzola e lovrene	+	+	+	+	+	Z Z	Y Y	+	+	+	+	+	+	¥	Y Y	¥	¥	¥	¥	¥.	630	80 Reference
C-10 - 13	╀	-	H	-	H			-		Н	Н	H										
Nitro-PAH ANALYSES										-											0,00	
Laboratory No.	-	+	+	+	+	4	7	+	+	+	+	+	+	16	17	8	9	20	21*	22	conc. 95	95%CL type
Manage Brown Brown		2		+		,	1		414	$\ $	╀	VIV	VIV	24.7	VIV	S A	VIV	VIV	VIV	ž	190	
7-inu oanuli acciie	+	+	+	+	+	-	V V	+	+	+	AN AN	+	+	+	+	Y N	AN A	¥	AZ Z	¥	no target	Target
2 mitrofluoranthene	+	+	+	+	+	-	+	AN	AN	+	+	NAN V	+	405	AN N	¥	Y.	Y.	AZ.	¥	no target	Tarpet
3-nitrofluoranthene	+	+	+	+	+	-	+	+	+	ł	+	+	+	+	+	¥	¥	¥	A Z	¥	no target	Target
7-nitrobenz[a]anthracene	\vdash	H	H	-	+	F	+	+	+	-	-	-	ž	\vdash	-	Ā	¥	¥	Ą	Ą	no target	Target
6-nitrochrysene	H	AN	H	-	├	F		\vdash	-	-	-	H	_	-	¥	¥	¥	¥	A Z	¥.	no target	Target
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t aboratory No.				-	-				-												From 1649a Certif.	1
* received after initial data review	-	la la	3	За	H		-	8	9	-1	11 12	2 13	3 15*	16	17	18	19	20	21.	22	conc. 95%Cl	
	-	-	-	-	_		-	_	A 14344	-		+		4	-	¥	¥	¥	Y .	1000	no target	Target
16.7	H	\vdash	\vdash	+	-	T	-	-	Т	_		-	_	-	-	¥	ž	ž	¥	1933	no target	argel
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	+	+	+	AN	AN	AN	+-	-	†	-	_	⊬	_	-	L	AN	Ϋ́	8117	-	_	no target	Target
n-C23	1	+	+	+	-	T	+	-	1	+-	-	┝	L	-	-	¥	¥	12093		26933	no larget	Target
n-C24	+	+	AN AN	ΨN	+	AN AN	+-	47700 N	T	+-	-	⊢	ļ.,	-		¥ Z	¥	31700	-		no target	Target
n-C.23	1	+	+	+	+	†	+-	+	1	+	-	+	_	-	-	¥	ž	29767	-	-	no target	Target
n-C26	4	4	¥ :	+	2	4	CT (210)	+	1		27549	+-	1	+	+	AN	¥	22500	57362	89067	no target	Target
n-C27	1	+	+	+	1	+		2000	+	-		+-	L	-	+	AN	¥	7950	+	+-	no target	Target
n-C28	4	-	+	1		7	\rightarrow	4	1	-+-	-	+	-	+	+	414	V.	13427	+	+-	action of	Tarnel
n-C29	95353	¥	_		-	7	\rightarrow	4	7	-+	_	+	1	+	+	¥ :	2	13451	+	+	i i	200
n-C30	_	-	_	-	4	Т	_		_	-	_			-	-	¥	¥	6200	-+	\dashv	no target	arger
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n-C3!	41,000	+	+	+		414	+	1	+	╁	┺	+-	Ļ	+	+	Y.	¥	<836	-	14533	no target	Target
n-C32	20823	¥	+	+	4	7	+	4	\dagger	+	-	+	1	+	+	2	4	AIA	ΔN	4Z	taction to	Tamel
n-C40	<2000	_	_	NA 4			-+	_	1	-+	-	+	1	+	+	5	2				26.00	
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conalene	¥	¥	L	Ψ×	ΑĀ		\vdash	_	_	Z Y	_	-		-	\dashv	¥	¥	₹	¥	¥	no target	Target
octadocene	Ą	\vdash	-	-	H	Y.	-	_	-	-	-	-	_	_	-	Υ V	¥	¥	Ϋ́	¥	no target	Target
		-	╀	┞	┞		₩	_	-	-	U—	 - -			_							
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tes, Cholestanes, Sterols		+	+	+			-	+	+	-	+										From 1649a Certif.	-
Laboratory ING.		+	+				-	+	+	+	t	1	+	+	+	4	9	2	21*	22	COUC 95%CL	
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17e(H)-22, 29, 30-trisnorhopane	¥	-	+	+		+	-	+	+	+	+	1	+	+	+	5	2	212		4000	2	Target
17a(H), 21b(H)-29-norhopane	Y Y	A	NA	-	-	-	4	-		-	+	4	+	+	+	2	2	5	2	2007	196.00	
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20R-5a/ftt, 14b/ftt, 17b/ftt-cholesune	¥	-	_	-	_		-	-	_			_	_		_	Y Y	¥	<1930		3067	no targel	Target
205 Soft 1450) 176 Hebolestane	Y.	ŀ	H	\vdash	-	-	H	-	-		\vdash	_			_	¥	ž	¥	_	2733	no target	Target
and south teach 17-00 cholesing	AN	AN	AN	AN	3538	AN	H	Z Y	Z	Z	Ž	AN A	AN A	₹	¥	¥	¥	779	¥	1700	no target	Target
וויייייייייייייייייייייייייייייייייייי	VIV.	+	+	$^{+}$	+	+	+	+	+	+	t	Ļ	H	+	-	¥	¥	<1500	-	1433	no target	Target
20K,58(H), 40(H), 10(H)-4801anc	NAME OF THE PERSON OF THE PERS	+	+	+	+	+	+	+	+	+	+	Ļ	-	-	H	AZ AZ	¥	¥	-	8833	no target	Target
225-17-41), 214-H-30-homohomose	AN	AN	Y Y	+	-	AN	+	H	-	H	H	_	H	-	-	¥	¥	¥		6083	no target	Target
225-17a(H), 21b(H)-30-bishomohopane	Y X	-	H	+	L	-	_	-	-	-	H	L				Ϋ́	ž	¥	-	5533	no target	Target
22R-17a(H), 21b(H)-30-bishomohopane	¥	\vdash	-	H	-	-	-	H	-	H	Н			_		¥	¥	¥	4	3400	no target	Targel
pristane	.579	-	-	H	\vdash	\vdash	-	-	_	_				-	-	¥	ž	¥	4	267	no target	Target
phytane	764	-		+	-	H	-	-		H		Ц			-	¥	¥	¥	-	267	no target	Target
cholesterol	AN	H	H		-	H	-			-	Н					Ϋ́	ž	¥		¥	no target	Target
stigmasterol	Ϋ́	H		-	NA		NA	Н	Н	Н	Н	NA AN	-	-	-	AN	¥	¥	_	¥	no target	Targe
																						+
Carbonyls and Acids			+							+	+	-	-								7 - 46 40 C odis	-
Laboratory No.		-	+		-	1	1	+	+	-	+	+	+	+	+	9	40	20	24.	22	COULT 10438 Cerui.	5
received after initial data review		-	-	╢	4	1	4	-	+	+	+	╂	+	╬	+	2 4	2 4	7407	1543	1 2	20000	l
benzanthrone	¥.	¥.	₹:	A S	¥Z,	1	1	+	+	+	+	+	+	+	+	Z Z	2 2	AN	413.0	AN A	no tarnet	
9-Iluorenone	Y S	+	+	+	-	T	4	+	+	+	+	+	+	+	+	Z Z	AN	AN	11190	1	notaroet	Target
anthroquinone	¥ S	+	+	+	+	1	1	+	+	+	+	+	+	+	+	AN A	¥	4810	2140	\perp	notarget	Target
benz(a janthracene-/, 12-dione	¥ 5	+	+	+	+	T	1	+	+	+	+	+	+	+	+	AN	A N	AN	AN N	\perp	no target	Target
C-nonanol parent	2 2	+	+	$^{+}$	2 2	T	1	+	+	ł	+	+	-	+	+	ž	¥	¥	¥	_	no target	Targe
O customidebade	C V	+	+	$^{+}$	+	T	1	+	+	+	t	╀	+	+	+	Y.	¥	¥	Y Z	L	no targel	Target
Strings debude	Q A	+	+	+	+	T	1	+	+	╁	+	+	+	+	+	¥	ž	¥	¥	L	notarget	Target
sylmatic acid	AN	+	+	+	+	T	1	+	╀	-	+	+	-	╁	1	¥	¥	<703	¥	L	no target	Target
sonimaric acid	Ą	+	+	T	1	T	1	+	H	+	+	-	-	-	\vdash	AZ AZ	ž	2340	Ϋ́Z		no target	Target
pinic acid	¥	+	+	T	Ą	T	1	+	+	+	H	+	-	-	-	Ą	¥	¥	¥	L	no target	Target
pinonic acid	A Z	-	H	Т	L	1	L	H	-	-	-	-	H	-	-	¥	¥	Ą	Ϋ́Z	L	no target	Target
hexadecanoic acid	₹ Z	+	+	T	L	T	1	\vdash	\vdash	-	H	-	-	+	-	¥	¥	¥	267957	L	no target	Target
nominic acid	₹ Z	+	+	T	1	¥	1	+	+	+	H	H	\vdash	-	H	Y Y	Ä	¥	¥	_	no target	Target
norpinonic acid	¥	¥	¥		+	T	L	-	H	H	┝	H	-	-	-	¥ Z	¥	¥	A		no target	Target
nopinone NA NA NA	¥	A'A	AM		¥.	Г	AN AN	NA AN	Z A	NA	NA	AN A	¥ ∀	¥	A A	Y Y	¥	¥	Ϋ́	ΑN	no target	Target
naldehyde	Ą	¥	AA		ΑA				-	-	_		_	_		¥	ž	¥	₹		no target	Target
- Lackson de																						

Sable 10. Continued													1			-								
henois														-		-			-		1	room 16.49a Carlet		
Laboratory No.			_											-	+		,	9	2		T	10/090	T	2
weived after initial data review	-	10	m	3a	4	9	7.	80	6	10	11	12	13	15°	16	17	18	-	77	-12	٦	conc.		ar I
The same of the sa	VIV	VIV.	NΔ	NA	AN	AN	Ą	AN	<128	ΑN	¥	AN	¥	ΑĀ	AN	NA	NA	NA	ΑN	¥	-	no target	12	Target
syringol	2 4	5 4	VIA.	VIA.	VIV	4N	AM	ΔN	163	AN	AN	ΑN	¥	¥	ΨV	AN	- VA	٧×	- Y	٧	¥	no larget	2	Target
ethylsynngol	2	2 4	2 4	2 4	VIV	VIV	MA	ΔN	<128	AN	Ą	Δ.	AN A	¥	AA	¥	AA	¥	ΑN	٧×	¥	no target	Ta	Target
soeugenol	¥ :	¥ 4	2 4	2 4	V V	Z Z	VIV	4N	148	AN	AN	Y.	¥	¥	AN	ΑA	NA A	-	AN	Ϋ́	٧×	no larget	Ta	Target
ropionylsyringol	Ž	¥ 4	¥ 4	2 2	2 2	4	V.	4 Z	206	AN	AN	AZ.	¥	ž	-	¥	AN	L	ΑĀ	¥	¥	no larget	Té	Target
utyrylsyringol	2 4	2 4	2 4	2 2	V V	NA NA	AN	AN	<1026	AN	AN	₹Z	¥	¥	AN	AN	- AN	¥	AA	¥	¥	no target	Ta	Target
valacol	ZZ.	<u> </u>	5	2		2 4		4	1,00	414	2	VIV.	ΔN	AN	AN	AN	AN	Α×	Ϋ́	Ϋ́	AN	no target	Ta	Target
4-methylguaiacol	ž	ď.	ď.	A V	ž	¥	¥	Ş	2153	2	<u> </u>	5			1	+	+	-	VIA	VIA	MA	land land	F	Tarnet
ethylonajacol	¥	ΑN	٧	¥	A	¥	ž	¥	<128	¥	A	ΝA	ďΖ	Ā	NA	-	¥N.	-	4	2	╣	in large		á
Q .														-						+	+		+	
Cuone																		1	-		-1			
			l													_			_		Ĭ.	from 1649a Certif.		
Laboratory No.	•	-	,	S		4	7	œ	σ	9	-	12	13	15*	16	17	18	19	20	21°	22 CC	conc. 95%CL		type
received after Initial Data review	-	9	,	5		,			100		414	414	414	414	VIA	MIA	MA	AIA	NA	31376	NA	no largel	Ta	Target
	NA	NA	Ą	ž	68464	¥	×	×	38431	Z Z	ξ Z	Ž	Z.	Y.	-	-	-	1	1	-	1	To the second		

Laboratory No.	1	la	3	3a	4	6	7	8	9	10	11	12	13	16	17	18	19	20	21	22
naphthalene	3.8	3.1	-3.6	-2.5	20.9		1.0	-1.0		-2.9		12	1.1	-10	-2.5	10	10.8			
luorene	0.0	0.2	-5.0	-1.6	-0.4	-0.5	-0.6	-2.2		0.9	4.1	6.3	0.1		-2.5		42.7			
henanthrene	0.6	0.5	-3.1	-1.4	2.0	-0.4	-0.5	-2.0		-1.6	0.2	1.6	0.0		-0.1	1.1	14.2			
nthracene	0.1	-0.3	-3.2	-1.3	11.5	-0.5	-0.1	-1.7		-1.6	4.5	12.2	2.4		-1.5					
-methylphenanthrene	-0.7	-0.4	3.2	-1.5	11.5	-0.5	-0.1	-1.,		-0.9	0.0	2.9	2.0		-1.5		-			\vdash
2-methylphenanthrene	-0.7	-0.5								-0.7	0.0	2.1	1.2							-
3-methylphenanthrene	-0.8	-0.4										2.1	1.3							
9+4-methylphenanthrene	0.4	-0.4						-					1.5							
retene	-3.1	-1.2			6.1	-2.1						0.9								
fluoranthene	0.1	0.3	-2.9	-0.8	0.1	-0.4	0.2	-1.6		0.1	0.2	0.8	0.0		0.2	0.8	2.0			-
рутепе	0.1	0.5	-2.9	-1.0	0.3	-0.1	0.2	-1.3		0.4	0.7	0.4	0.0		-0.1	2.2	2.0			
benzo[ghi]fluoranthene	0.1	0.0	-2.9	-1.0	0.3	-0.1	0.2	-1.3		0.4	0.7	0.4	0.0		-0.1	2.2	- 2.2			
benz[a]anthracene	-0.2	-0.1	-2.9	-1.7	-0.8	-0.4	0.4			1.7	0.0	-0.5	-0.8		0.3		2.0			
	-0.2	0.6	-2.9	-1.6	-0.8	-0.5	1.1	-0.3		0.6	0.0	-0.5	-0.6		0.0	3.4	3.5			-
chrysene		0.0	-2.9	-1.0		0.0	1.1	-0.3		0.0					0.0	3.4	3.3			
triphenylene	-0.7	0.0	_	-	-0.6	0.0					-0.2	1.7	0.3							-
chrysene+triphenylene		0.2	2.6	1.2		1.4	0.8	0.6			-0.2	1.7	-0.2	-	0.5		26	2.7		-
benzo[b]fluoranthene	-0.6	-0.2	-2.6	-1.3	-1.6	1.4	0.8	-0.6		1.7			-0.1		0.5	-	2.6	-2.7		-
benzo[j]fluoranthene	-0.3	0.6	2.2	1.0	1	0.5	4.2	2.0		0.0			-0.3		0.0	-	4.1	2.5		
benzo[k]fluoranthene	-0.3	0.3	-2.2	-1.0	1.6	0.5	4.2	2.8		0.8	0.1		-0.3		0.0		2.4	2.5	-	-
benzo[e]pyrene	-0.3	0.1				-0.3	0 -	-0.9		0.2	0.4	2.4	-0.2				5.0	-1.5		-
benzo[a]pyrene	0.3	0.3	-2.1	-0.5	-1.6	-0.2	0.7	-1.3		0.7	0.3	3.1	0.5		-0.1		4.0			
perylene	0.3	0.3				-1.6		0.8		1.6	-0.7	35.8	-0.7						-	-
indeno[1,2,3-cd]pyrene	0.0	0.1	-2.3	-1.3	0.2	0.0	-0.1	-1.5		-0.5	-0.1	3.1	0.1		0.5	<u> </u>	1.8	-3.8		
benzo[ghi]perylene	0.2	0.3	-2.0	-0.9	1.0	-0.1	1.2	-0.8		0.1	-0.1	0.9	0.2		-0.1	1	2.5	-1.4		ļ
dibenz[a,h]anthracene	1.8		-2.2	-1.2	ļ	1.2	4.7	2.2		2.3			1.6		-0.1		9.7			
dibenz[a,c]anthracene	0.2	0.3			ļ								-0.5				ļ			_
benzo[b]chrysene	0.1	-0.1				-2.4														
coronene	-0.3	-0.1			-1.1			1				4.3						-2.9		
dibenzo[a,e]pyrene	0.1				-0.1										<u></u>					
9-nitroanthracene	-0.2					0.2								-0.1						
I-nitropyrene	0.3					0.2								-0.5						
2-nitrofluoranthene	-0.1					0.0						-0.1		0.1						
7-nitrobenz[a]anthracene	-0.1					1.1								-1.0		į	1			
6-nitrochrysene	-0.3													0.3						
n-C20	0.3				-2.1		1.4	-1.2		85.6	1.7	29.9								0.0
n-C21	-2.0							-2.2		46.8		6.6								-2.3
n-C22	-2.0						-1.8	-1.3		128.5	1.3	9.6							-3.5	-2.2
n-C23	-1.5							1.5		147.3		7.4						-2.5	-3.3	-1.6
n-C24	-2.1	1			1		-2.0	-1.7		176.1	3.0	10.9				ļ		-2.7	-3.4	-2.0
n-C25	-1.6		1					-2.1		129.3		10.4						-2.7	-2.9	-1.2
n-C26	-2.1	+	 		1	1	-2.8	-2.2		124.8	3.7	11.0		1				-2.9	-3.0	-1.7
n-C27	-0.3		1	 	-	 	1 2.0	-2.0	<u> </u>	78.0		8.8		-	<u> </u>		1	-2.7	-3.2	-0.6
n-C28	-2.1		-		-2.4		-3.1	-2.6		73.2	8.5	10.4		1		1		-3.4	-3.4	-2.0
n-C29	0.3		-	1	-2.7		3.1	-1.5		58.7	3.5	6.9		-	-			-3.1	-3.0	0.4
n-C30	-2.1	+		+	3.9		-2.5	-2.7		50.9	10.4	2.6						-3.6	-3.6	-2.4
	2.6	+			3.9	+	-2.3	-0.3		30.5	10.4	2.4	+	-	+	-		-3.2	-3.2	1.7
n-C31	+	+	+	+	1	-	0.6	+	-	11.5		0.4	-		-			-3.1	-3.8	-2.2
n-C32	-0.7	-		+	1.1	+	-0.6	-2.5	+	11.3	-		 		-		-	-1.6	-3.0	-1.6
17a(H)-22, 29, 30-trisnorhopane	+	1	1		-0.7	1	1	 	-	-		3.8				-		-1.0	+	1.2
17a(H), 21b(H)-29-norhopane	+	-	-		+				-	-	-	-1.2				-	-	2.0		+
17a(H), 21b(H)-29-hopanc		-	1	-				-	-			3.4			+	-	-	-2.0		-1.4
20R-5a(H), 14b(H), 17b(H)-choles		-		-	-1.0	-	+	-	-							-		+		1.0
20R-5a(H), 14a(H), 17a(H)-choles		-	-	-	2.2	-	-	-		-	-				-			-1.0		-1.5
20R,5a(H),14b(H),17b(H)-ergosta			-	-	0.3					-	-			-	-	ļ	-	0.7	-	-1.0
22S-17a(H), 21b(H)-30-homohopa					-				-	-	1	-0.4	-				-			0.4
22R-17a(H), 21b(H)-30-homohop							-			-		0.2	ļ	ļ	-			-		-0.
22S-17a(H), 21b(H)-30-bishomoh	opane											2.7								-2.
22R-17a(H), 21b(H)-30-bishomoh	opane											3.0			1					-3.
pristane	3.1						1.1	-2.0				712.2								-2.
phytane	1.5						1.5	-1.5												-1.
benz[a]anthracene-7, 12-dione					-1.8							3.1						0.9	-2.2	
hexadecanoic acid					0.5		0.0												-0.5	
levoglucosan	-	1	1	1	3.8	1	1		-2.3	1		1	1		1				-1.5	T

Table 12. PM2.5 Inter					_			-												
Laboratory No.		la	3	3a	4	6	7	8	9	10	- 11	12	13	16	17	18	19	20	21	22
naphthalene	0.0	0.1	-1.4	-1.0 -1.0	7.9 -0.2		-0.4	-0.4		-1.1			0.4		-1.0		4.1			
fluorene	0.0	0.1	-2.6	-1.0	1.7	-0.3 -0.3	-0.4	-1.3 -1.6		-1.3	0.1	3.7	0.1		- 0.1	0.9	25.3			
anthracene	0.0	-0.1	-1.6	-0.7	5.8	-0.3	0.0	-0.8		-0.8	2.3	6.1	1.2		-0.1 -0.7	0.9	11.9			
1-methylphenanthrene	-0.6	-0.1	-1.0	-0.7	٥.٥	-0.3	0.0	-0.8		-0.7	0.0	2.4	1.7	·	-0.7					
2-methylphenanthrene	-0.7	-0.4								-0.7	0.0	2.4	1.7				 			
3-methylphenanthrene	-0.7	-0.3								-		2.0	1.1							
retene	-1.0	-0.4			1.9	-0.6						0.3	1.1					-0.2		_
fluoranthene	0.2	0.4	-4.6	-1.2	0.1	-0.6	0.3	-2.5		0.1	0.3	1.2	0.0		0.4	1.3	3.2	-0.2		_
pyrene	0.2	0.4	-4.9	-1.6	0.1	-0.0	0.3	-2.3		0.1	1.2	0.7	-0.1		-0.1	3.7	3.8			
benzo[ghi]fluoranthene	0.2	0.8	-4.9	-1.0	0.5	-1.1	0.3	-2.3		0.7	1.2	0.7	-0.1		-0.1	3.7	3.6			
benz[a]anthracene	-0.2	0.0	-2.8	-1.6	-0.8	-0.4	0.4			1.6	0.0	-0.4	-0.8	-	0.3		2.0		 	-
chrysene	-0.2	0.0	-3.3	-1.7	-0.8	-0.4	1.2	-0.3		0.7	0.0	-0.4	-0.8		0.0	3.8	3.9			
chrysene+triphenylene	-0.7	0.7	-5.5	-1.7	-0.6	-0.0	1.2	*0.5		0.7	-0.2	1.7	-0.2		0.0	3.6	3.9	-		-
benzo[b]fluoranthene	-0.6	-0.2	-2.4	-1.2	-1.5	1.3	0.7	-0.6		1.5	-0.2	1.7	-0.1		0.5		2.4	-2.5	-	
benzo[j]fluoranthene	-0.6	1.2	-2.4	~1.2	-1.5	1.3	0.7	-0.0		۱.۵		-	-0.6		0.5		7.7	-2.3		-
benzo[k]fluoranthene	-0.5	0.4	-3.7	-1.7	2.7	0.9	7.0	4.5	-	1.3			-0.5		0.1		3.9	4.2		
benzo[e]pyrene	-0.3	0.1	-3.7	-1.7	2.7	-0.3	7.0	-0.8	_	0.2	0.4	2.3	-0.2		0.1		4.7	-1.4		
benzo[a]pyrene	0.2	0.1	-1.6	-0.4	-1.3	-0.1	0.6	-1.0		0.5	0.2	2.4	0.4		-0.1		3.1	-1.4		
perylene	0.2	0.2	-1.0	-0.4	-1.5	-1.5	0.0	0.8		1.5	-0.7	33.5	-0.6		-0.1		3.1	-		_
indeno[1,2,3-cd]pyrene	0.0	0.1	-1.7	-1.0	0.2	0.0	-0.1	-1.1		-0.3	-0.1	2.4	0.1		0.4		1.3	-2.9		
benzo[ghi]perylene	0.2	0.3	-1.8	-0.8	0.9	-0.1	1.1	-0.7		0.1	-0.1	0.8	0.2	-	-0.1		2.2	-1.3		\vdash
dibenz[a,h]anthracene	0.9	0.5	-1.1	-0.6	- 51.5	0.6	2.3	1.1		1.1		1 0.0	0.8		0.0	-	4.8		-	1
dibenz[a,c]anthracene	0.4	0.7		0.0	-	0.0	2.3				·		-1.1		0.0		1.0	-		
coronene	-0.1	0.0	1		-0.4							1.6	···				1	-1.1		_
9-nitroanthracene	-0.8	0.0	-	 	0.1	1.1			·	+		1		-0.3	 	-	1			-
1-nitropyrene	0.7	-	+			0.4	-	 		· · ·		 		-1.1			 	 		
2-nitrofluoranthene	-1.0		-		1	0.4						-0.6		1.2	1	1				<u> </u>
7-nitrobenz[a]anthracene	-0.1	1				1.0			-					-0.9		1				
6-nitrochrysene	-0.7		+	1		1				-				0.7		1		1		\vdash
n-C20	0.2		1		-1.4		0.9	-0.8		58.9	1.2	20.6		-	-					0.0
n-C21	-0.5							-0.5		10.7		1.5								-0.5
n-C22	-0.5		1	1	1		-0.4	-0.3		28.7	0.3	2.1							-0.8	-0.
n-C23	-0.4	1	1					0.4		37.1		1.9						-0.6	-0.8	-0.4
n-C24	-0.4		1	1	T		-0.4	-0.4	1	36.6	0.6	2.3						-0.6	-0.7	-0.4
n-C25	-0.3	1						-0.4		25.1		2.0	1					-0.5	-0.6	-0.2
n-C26	-0.4	1					-0.6	-0.5	1	25.1	0.7	2.2						-0.6	-0.6	-0.3
n-C27	-0.1		1					-0.4		17.4		2.0		1			1	-0.6	-0.7	-0.
n-C28	-0.4				-0.4		-0.6	-0.5		13.5	1.6	1.9					1	-0.6	-0.6	-0.4
n-C29	0.1							-0.4		15.8		1.9						-0.8	-0.8	0.1
n-C30	-0.4				0.8		-0.5	-0.6		10.7	2.2	0.6					1	-0.8	-0.8	-0.:
n-C31	1.0							-0.1		11.4		0.9						-1.2	-1.2	0.6
n-C32	-0.1		1	1	0.2		-0.1	-0.6		2.5		0.1	1					-0.7	-0.8	-0.
17a(H)-22, 29, 30-trisnorhopane					-0.3							1.5						-0.6		-0.
17a(H), 21b(H)-29-hopane		1					1					1.1						-0.7		-0.:
20R-5a(H), 14a(H), 17a(H)-cholest	ane			1	1.2													-0.5		-0.
20R,5a(H),14b(H),17b(H)-ergostan				1	0.3		1										1	0.8		-1.
22R-17a(H), 21b(H)-30-homohopa				1	1	1								-						1
pristane	1.2	1	1				0.4	-0.8	—	1		284						-		-0.
phytane	0.9	-	-				0.9	-0.9				1505						1		-0.
benz(a)anthracene-7, 12-dione	1	1	+	1	-0.7	1	1	1	1	+	1	1.2	1	1		1	_		0.4	

Table 13. p scores (15%	1	ii repo	la	la	3	3	3a	3a	4	4	6	6	7	7
Laboratory No.	Int RM	1649a	Int RM	1649a	Int RM	1649a	Int RM	1649a	Int RM	1649a	Int RM	1649a	Int RM	1649a
PAHs														
naphthalenc	0.1	0.5	0.4	0.2	0.2	0.\$	0.2	1.1	1.7	0.2			0.6	0.9
lluorene	0.0	0.8	0.2	0.4		1.0	0.4	0.8	2.2	0.2	0.0	0.4		0.2
phenanthrene	0.4	0.2	0.0	0.3	0.2	0.5	0.4	0.2	1.9	0.9	0.0	0.3	0.8	0.2
anthracene	0.4	0.1	0.1	0.4	0.4	0.8	0.4	0.9	1.0	0.3	0.8	0.4	0.7	0.4
I-methylphenanthrenc	0.4	0.2	0.1	0.2										
2-methylphenanthrene	0.4	0.2	0.0	0.2										
3-methylphenanthrene	0.0	0.1	0.1	0.2										
9-methylphenanthrene	0.0	0.0	0.4	0.4	1					2.2	0.4	0.7		
retene 4H-cyclopenta(<i>def</i>)phenanthrene	0.1	0.2	0.4	0.5	ļ — —				1.9	3.3	0.4	0.7		
fluoranthene	0.4	0.0	0.4	0.1	0.4	0.8	0.2	0.1	0.2	0.4	0.4	0.4	0.2	0.3
pyrenc	0.6	0.1	0.0	0.3	0.2	0.8	0.4	0.5	0.8	0.4	0.4	0.3	0.1	0.3
benzo[ghi]fluoranthene	0.3	0.0	0.0	0.2		0.0					0.4	0.5		0.5
cyclopenta[cd]pyrene	0.2	0.1	0.0	0.1					0.4			0.0	l	
benz[a]anthracene	0.4	0.8	0.0	0.4	0.4	0.3	0.2	0.2	1.7	0.2	0.4	0.7	0.3	0.4
chrysene			0.4	0.1	0.2	0.8	0.2	0.6	1.0	0.2	0.4	0.5	0,4	0.3
triphenylene			0.4	0.2							0.4	0.5		
benzo[b]fluoranthenc	0.2	0.1	0.1	0.2	0.2	0.7	0.1	0.1	2.4	0.2	0.4	0.7	0.1	0.4
benzo[j]fluoranthene	0.4	0.1	0.4	0.2							1			
benzo[k [fluoranthene .	0.1	0.1	0.0	0.3	0.4	0.1	0.1	0.8	1.9	0.6	0.4	0.7	0.4	0.4
benzo(e)pyrene	0.1	0.2	0.1	0.2				0.0		1	0.4	0.5		
benzo[a]pyrenc	0.4	0.2	0.1	0.4	0.2	0.7	0.2	0.2	0.4	1.2	0.4	0.7	0.7	0.3
perylene indeno[1,2,3-cd]pyrene	0.1	0.1	0.0	0.4	0.3	0.2	0.2	0.2	0.0	0.2	0.4	0.4	1.2	0.7
benzo[ghi]perylene	0.1	0.2	0.4	0.3	0.3	0.2	0.2	0.2	1.9	1.0	0.4	0.8	0.3	0.7
dibenz[a,h]anthracene	0.1	0.2	0.0	0.2	0.0	0.2	0.4	0.6	1.0	1.0	0.4	1.1	1.6	2.2
dibenz[a,c]anthracene	0.2	0.2	0.2	0.4	1	7.2	J.7.	3.0			7.7		1	
benzo[b]chrysene	0.4	0.2	0.3	0.1					1		0.4	1.1		
coronene	0.4	0.0	0.4	0.1					0.4	0.2				
dibenzoja,e jpyrene	0.1	0.1							6.2					
Nitro-PAH														
9-nitroanthracene	0.4	0.1									0.1	1.1		
1-nitropyrene	0.1	0.2									0.2	0.1		
2-nitrofluoranthene	0.2	0.5	ļ		-	-	ļ				0.1	0.1	-	
3-nitrofluoranthene	0.6	0.5	1	-						-				
7-nitrobenzla Janthracene	0.4	0.5	 	-	 	-	ļ		 	-	0.2	0.\$		
6-nitrochrysene	0.4	0.2	 	-	1	 	l		 		0.1	0.2	-	
6-nitrobenzo[a] pyrene Alkanes and Alkenes	0.4	-	₩	 	1	-	 	-	-	-	0.1	0.2	l	
n-C20	0.4	0.2	}	-	1	_	 	1	6.6	0.4	 		1.4	1.1
n-C21	0.4	0.2			1	+	}		0.0	0.4	1		1	
n-C22	0.4	0.1	1	1	1		 		1		1		0.5	1.0
n-C23	0.4	0.8	ļ	1	1	1	1		1					1 11
n-C24	0.4	0.5								2.5			1.4	0.6
n-C25	0.4	0.3	1											
n-C26	0.4	0.2											1.8	0.6
n-C27	0.4	0.2]											
n-C28	0.5	0.5			1					1.8	_		1.0	4.1
n-C29	0.2	0.2	_				1		 					-
n-C30	0.5	0.5	1	-	_		l	-	●.5	1.5	ļ		0.6	1.1
n-C31	0.2	0.2	-	-	-	-	1	-	1		1			
n-C32	0.5	0.1	.	-	1	-	1	-	0.9	0.2	1	-	1.7	0.6
n-C40 1-octadecene	1	+	╂		-	-	 	-	3.3	1.3	-		-	
	╬		╬——	-			 		3.3	1	-			+
Hopanes, Cholestanes, Sterols 17a(H)-22, 29, 30-trisnorhopane		-	-	+	-1		1		1.9	0.2	1		-	
17a(H), 21b(H)-29-norhopane	1	1	1	-	-		1		1	J.E				
17a(H), 21b(H)-29-hopanc	1		1			1								
20R-5a(H), 14b(H), 17b(H)-cholestane			1						1.9	0.2				
20S,5a(H),14b(h),17b(H)-cholestane														
20R-5a(H), 14a(H), 17a(H)-cholestane									0.6	0.2			1	
20R,5a(H),14b(H),17b(H)-ergostanc									2.2	0.4				
22S-17a(H), 21b(H)-30-homohopane														ļ
22R-17a(H), 21b(H)-30-homohopane					-	-		-			-			-
22S-17a(H), 21b(H)-30-bishomohopar			-	-		-	-	-	-	-	-			
22R-17a(H), 21b(H)-30-bishomohopa		4	1	-	-	-	1	-	-	-	1-		1.3	0.6
pristane	0.4	0.1	1	-	-	-	1	+	1	+	1		0.4	0.6
phytanc	0.4	0.2	-	-		1	1		1.9	1	1	-	0.4	0.3
cholesterol Carbonyls and Acids	1	1	1	-	1	-	1	-	1.9	1			1	
benzanthrone		-	-	1	-		1		1		1			
9-fluorenone	1								3.8	1.3				
anthraquinone									0.6	1.0				
benz[a]anthracene-7, 12-dione	1						1		9.4	0.2				
pimaric acid														
isopimaric acid			1											
pinonic acid									0.6					
hexadecanoic acid									2.8	0.6				0.8
Phenols														
4-ethylsyringol														
isoeugenol							1		3.1				1	
propionylsyringol														
butyrylsyringol							الـ					ļ		
			31		11	1			11		18		16	

Table 13. p scores (15%)	- 0	-	0	0	10	10	11	11	12	- 12	13	12		1.0
Laboratory No.	8 Int RM	8 1649a	9 Int RM	9 1649a	int RM	10 1649a	Int RM	11 1649a	12 Int RM	12 1649a	Int RM	13 1649a	lnt RM	1649a
PAHs	uit Kivi	10474	III KIVI	10494	III KW	10492	III KW	10474	III KWI	10494	III KW	1649a	Int RM	10492
naphthalene	0.6	0.4			0.9	0.7					0.3	0.2		
fluorene	1.0	0.6			0.9	0.8	1.2	0.7	1.3	3.4	0.3	0.0		
phenanthrene	0,5	0.4			0.9	0.7	0.8	0.7	0.8	0.7	0.3	0.1		
anthracene	0.4	0.1			0.2	8.8	€.9	1.1	€.9	0.7	0.3	0.1		
1-methylphenanthrene					0.9	0.7	0.9	0.4	0.9	0.4	0.5	0.1		
2-methylphenanthrene									0.9	2.9	0.3	0.5		
3-methylphenanthrene											0.3	0.0		
9-methylphenanthrene											0.3	0.1		
retene									2.7	1.5				
4H-cyclopenta(def)phenanthrene														
fluoranthene	0.4	0.2			0.1	0.7	0.9	0.7	0.9	0.7	0.1	0.1		
pyrene	0.5	0.1			0.9	0.3	0.8	0.8	0.9	0.7	0.1	0.2		
benzo[ghi]fluoranthene													-	
eyclopenta[cd]pyrene benz]a]anthraeene					1.2	0.3	0.8	0.7	0.9	1.8	0.1	0.1	-	-
chrysene	0.4	0.3			0.9	0.7	0.9	0.7	0.9	1.8	0.3	0.0	-	
triphenylene	0.4	0.5				V.,	0.7	0.7	0.9	9.8	- U.J	0.0		
benzo b fluoranthene	0.6	0.4			0.5	0.3	0.9	0.5	0.8	1.3	0.3	0.2		
benzo(/) fluoranthene									0.9	1.8	0.1	0.2		
benzo[k]fluoranthene	0.4	0.5			0.2	5.8			0.9	1.3	0.4	0.1		
benzole pyrene	0.5	0.4			0.9	0.7	0.8	0.5	0.9	0.4	0.3	0.2		
benzo[a]pyrene	0.6	0.7			0.9	0.7	0.9	0.5	0.9	0.3	0.3	0.2		
perylene	0.6	1.3			1.5	2.4	0.9	0.7	1.7	0.5	0.3	0.2		
indeno[1,2,3-cd]pyrene	0.5	0.5			0.1	9.8	0.9	0.7	0.9	0.5	0.3	0.2		
benzo[ghi]perylene	0.1	0.2			0.9	8.8	0.9	0.7	0.9	0.3	0.3	0.2		
dibenz[a,h]anthracene	0.4	1.3			0.9	0.3	0.9	0.7	1.3	1.8	0.3	0.1		
dibenz[a,c]anthracene								1	1.3	1.8	0.3	0.1	-	
benzo[b]chrysene								-		0.9	1		-	
coronene dibenzo] a,e pyrene			-					-	0.9	0.7			·	
Nitro-PAH			-	-				-					-	
9-nitroanthracene	-		l	 							 		0.5	0.4
1-nitropyrenc									-			-	0.2	0.1
2-nitrofluoranthene									i				0,2	0.1
3-nitrofluoranthene													0.8	3.6
7-nitrobenz]a Janthracene													1.5	0.2
6-nitrochrysene													1.1	0.5
6-nitrobenzo[a] pyrene														
Alkanes and Alkenes								+					ļ	ļ
n-C20	0.3	0.4	ļ		0.9	1.8	0.9	1.8	0.9	2.4		0.1		-
n-C21	0.7	0.3	 		0.8	1.7	-	L	1.0	1.8				
n-C22	0.3	0.4			0.8	1.8	1.0	1.1	0.8	1.8	ļ	0.1	-	
n-C23	1.2	0.4			0.9	1.8			0.9	9.8	ļ			
n-C24	0.3	0.4	 		1.0	1.8	0.6	0.6	0.8	0.4	 	0.1		
n-C25 n-C26	0.3	0.5	 	_	0.9	2.0	1.1	0.8	0.9	0.7		0.1	ļ	-
n-C27	0.3	0.4	 		0.9	1.8		4.0	0.9	1.3	 	0.1		
n-C28	0.3	0.5			0.9	1.8	0.8	1.8	0.5	1.8	l	0.0	1	
n-C29	0.3	0.7	i		0.9	0.7	0.0	1.0	0.9	1.2		0.0	1	1
n-C30	0.5	0.7			0.9	9.8	0.9	0.7	0.9	0.3		0.1		1
n-C31	0.3	1.8		1	0.9	0.7			€.9	0.5				
n-C32	0.3	0.5			0.9	6.8	1		1.1	2.6		0.2		
n-C40														
1-octadecene														
Hopanes, Cholestanes, Sterols														
17a(H)-22, 29, 30-trisnorhopane							ļ	,	1.0	1.1	ļ			
17a(H), 21b(H)-29-norhopane		L	ļ		1		 	<u> </u>	€.9	1.0	ļ		ļ	
17a(H), 21b(H)-29-hopane			1		-			L	●.9	1.5	1		-	
20R-5a(H), 14b(H), 17b(H)-cholestane				├		1	ļ		-	-	-	-	-	
20S,5a(H),14b(h),17b(H)-cholestane		-					l	-	-	-	1	-		
20R-5a(H), 14a(H), 17a(H)-cholestanc		i			ļ			-	-	-	-	-		<u> </u>
20R,5a(H),14b(H),17b(H)-ergostane 22S-17a(H), 21b(H)-30-homohopane			1	-	-		-	 , -	1.7	2.4	1	 		
22R-17a(H), 21b(H)-30-homohopane		-	-	_	l	-	-	 	1.7	0.7	1			
22S-17a(H), 21b(H)-30-bishomohopane						L			0.9	1.8	1			
22R-17a(H), 21b(H)-30-bishomohopane		1							7.4	1.8				
pristane	1.0	0.7							0.9	1.8				
phytane	0.7	0.4							0.9	2.4				
cholesterol														
Carbonyls and Acids							i		1	L				
benzanthrone			1			,		-	1	-	ļ			-
9-fluorenone			J		-			-						
anthraquinone			1		1		-	-	0.9	1.8		-		
benz]a janthracene-7, 12-dione		-		-	1	-	1		1.0	0.7				ļ
pimarie acid			-	-			 	-	ļ	-		-	-	-
isopimaric acid		-	 	-	-	-	 	-	-	-	-	-		
pinonic acid		-	1	-		-	1	-	1	-		-		
hexadecanoic acid		-	ļ	-	-	-	ļ	-						1
Phenois		-	1	1.2	1		-		-	-				
4-ethylsyringol		-	1.1	1.3	 			-		-				
isoeugenol		-	1.0	0.2	-		-	-	[-	1			
propionylsyringol butyrylsyringol		1	1.0	0.6	1			-			1		İ	
				+	-		-	+	i	 				
Sugars		1	li .		H		li .		1		В	1	1	

Table 13. p scores (15%) Laboratory No.	17	17	18	18	19	19	20	20	21	21	22	22
	Int RM	1649a	Int RM	1649a	Int RM	1649a	Int RM	1649a_	Int RM	1649a	Int RM	1649a
AHs												
aphthalene		0.2			1.0	0.3						
luorene					9.1	0.6						
ohenanthrene		0.1	1.1	0.2	0.6	0.4						
inthracene		0.0				0.9						
-methylphenanthrene												
?-methylphenanthrene												
3-methylphenanthrene												
-methylphenanthrene												
retene							0.5					
H-cyclopenta(def)phenanthrene												
luoranthene		0.0	0.4	5.7	0.7	0.6						
pyrene		0.3	5.6	0.3	0.6	0.6						
penzo[ghi]fluoranthene												
yclopenta[cd]pyrene												
penzja janthracene		0.1			3.9	0.6						
chrysene		0.5	0.5	1.8	2.3	2.4						
riphenylene												
penzo[b]fluoranthene		0.4			0.1	0.3	0.5	0.6				
penzo[j]fluoranthene					0.4	0.2						
benzo[k]fluoranthene		0.2			0.1	0.2	0.1	0.6				
penzo(e)pyrene					0.1	1.6	0.1	0.3				
benzo[a] pyrene		0.2			2.9	0.6	0.1	0.5				
		0.2			2.7	0.0					-	
perylene		0.3	-	-	2.2	0.2	0.1					
indeno[1,2,3-cd]pyrene		0.2	ļ		2.2	0.3	0.1	0.0				
benzo[ghi]perylene		0.4	 		0.5	0.6	0.1	0.6				
dibenz]a,h]anthracenc		1.2			3.0	0.6						
dibenz[a,c]anthraeene					1							
benzo[b]ehrysene			1									
coronene							0.4	0.6				
dibenzo[a,e]pyrene												
Nitro-PAH		-										
9-nitroanthracene												
1-nitropyrene												
2-nitrofluoranthene												
3-nitrofluoranthene					t e							
7-nitrobenz] a Janthraeene					1		-					
6-nitrochrysene			1	_	1							
6-nitrobenzo[a]pyrene	-		1		1			-				
			-	-	₩	-	 		 			
Alkanes and Alkenes			1	 	ł	-					0.4	0.0
n-C20			1	 	-	_				0.4	0.4	0.0
n-C21	-				ļ	-			2.3	0.4	0.5	0.2
n-C22			-	-	1				2.3	0.6	0.3	0.9
n-C23	-				ļ		0.2	9.6	0.5	0.9	0.4	0.5
n-C24	-			ļ	<u> </u>		0.7	9.6	0.3	0.6	0.2	0.4
n-C25							1.0	1.6	0.6	0.7	0.2	0.4
n-C26							2.3	1.6	0.5	0.2	0.5	0.3
n-C27							0.5	9.6	0.5	0.6	0.3	0.4
n-C28					I		1.2	1.6	0.5	0.4	0.3	0.3
n-C29			1		1		1.1	2.5	0.4	0.2	0.3	0.3
n-C30							1.1	0.2	2.3	1.6	0.5	0.2
n-C31	1.						1.7	9.6	0.5	0.2	0.7	0.4
n-C32					1		2.3				0.9	0.6
n-C40	1					1						
1-octadecene					1		1		1			
Hopanes, Cholestanes, Sterols		_		 	1	Ť T	1	· · · · ·		1		
			1		1		0.7	0.2	1		0.7	0.2
17a(H)-22, 29, 30-trisnorhopane				-	1	-	0.7	₩.∠	1		0.7	0.2
17a(H), 21b(H)-29-northopane	-		1		1	-	-, -		1			0.3
17a(H), 21b(H)-29-hopane	1		1		-		1.7	0.6	1	-	0.7	
20R-5a(H), 14b(H), 17b(H)-cholestane			-	-	-	-			1	-	1.0	0.3
20S,5a(H),14b(h),17b(H)-cholestane	-		1	-		-	1		-		1.8	0.4
20R-5a(H), 14a(H), 17a(H)-cholestane	1		1		-		-	0.3	1		1.4	0.4
20R,5a(H),14b(H),17b(H)-ergostane					1		1				0.7	0.3
22S-17a(H), 21b(H)-30-homohopane							1				0.7	0.2
22R-17a(H), 21b(H)-30-homohopane											0.7	0.0
22S-17a(H), 21b(H)-30-bishomohopan	ie										0.4	0.3
22R-17a(H), 21b(H)-30-bishomohopar											0.7	0.5
pristane											0.0	1.4
phytane											0.0	1.4
eholesterol					1				0.5	0.6		
Carbonyls and Acids	1			1	1							
benzanthrone			1		1		1.1	0.2	0.5	1.2		
9-fluorenone	+	1	1		1		1	J.2	0.5	0.4		
	-	-	1		1		1		0.5	1.2		
anthraquinone	-		1	-	1		0.5	0.2	0.5	0.7	-	-
benz[a]anthracene-7, 12-dione	+		-	-	1	-	0.5	0.2	U.3	0.7	1	
pimarie acid		-		-	-	-	2.3		 			
isopimaric acid	-	1			_	-	-	0.6				-
pinonie acid							1		ļ			
hexadecanoic acid									0.1	0.7		
Phenols		1			1							
Phenols												
Phenols 4-ethylsyringol	+											
Phenols 4-ethylsyringol isocugenol												
Phenols 4-ethylsyringol isoeugenol propionylsyringol												
Phenols 4-ethylsyringol isoeugenol												

Table 14. Summary of percent z- and p-scores (absolute value) in ranges from <1 to >3

		Air	Particulate Extra	act 1			Air Particulate I			P	M2.5 Interim R	М		1
Laboratory		z score (25%)	z score (s)	p score (15%)	# cmpds	z score (25%)	z score (s)	p score (15%)	# cmpds	z score (25%)	z score (s)	p score (15%)	# cmpds	p score (15
1	z or p≤1	96%	79%	100%	30	93%	91%	100%	31	70%	98%	100%	50	100%
	i< z or p ≤2	4%	21%	0%		7%	9%	0%		11%	2%	0%		0%
	2< z or p ≤3	0%	0%	0%		0%	0%	0%		13%	0%	0%		0%
	z or p >3	0%	0%	0%		0%	0%	0%	<u> </u>	6%	0%	0%		0%
1a	z or p ≤1									92%	91%	100%	28	
	1< z or p ≤2									4%	9%	0%		
	2< z or p\≤3							ļ	ļ	0%	0%	0%		
	z or p >3							ļ	<u> </u>	4%	0%	0%		
2	z or p∣≤l	100%	100%	100%	6	100%	100%	100%	6					100%
	1< 2 or p ≤2	0%	0%	0%		0%	0%	0%						0%
	2< z or p ≤3	0%	0%	0%		0%	0%	0%	<u> </u>	ļ		ļ		0%
	z or p >3	0%	0%	0%		0%	0%	0%	<u></u>	ļ		 		0%
3	z or p ≤1	86%	79%	100%	14	71%	14%	100%	14	0%	0%	100%	13	100%
	1< z or p ≤2	7%	21%	0%		14%	71%	0%	 	8%	46%	0%		0%
	2< z or p ≤3 z or p >3	7%	0%	0%		7%	14%	0%		69%	23% 31%	0%		0%
3-		076	1 0/0	078		170	078	078	 	(14	076
3a	z or p ≤1 1< z or p ≤2	ļ				 				36% 57%	50%	100%	14	-
	2< z or p ≤3			 		 	 	 	 	7%	0%	0%		-
	z or p >3					1	l	 		0%	0%	0%		1
4	z or p ≤1	68%	44%	70%	23	36%	35%	65%	23	48%	61%	29%	34	64%
	1< z or p ≤2	26%	56%	23%		18%	30%	13%		19%	26%	29%		23%
	2< z or p ≤3	5%	0%	9%		23%	4%	9%		19%	4%	21%		9%
	z or p >3	0%	0%	0%		23%	30%	13%		15%	9%	21%	1	5%
5	z or p ≤1	48%	55%	12%	33	41%	35%	21%	33			Ť		70%
	1< z or p ≤2	90%	45%	76%		28%	45%	48%						24%
	2< z or p ≤3	14%	0%	12%		13%	0%	30%						3%
	z or p >3	10%	10%	0%		19%	19%	0%		<u> </u>				3%
6	z or p ≤l	83%	75%	54%	25	87%	68%	92%	26	78%	86%	100%	24	96%
	1< z or p ≤2	11%	19%	12%		9%	26%	8%		13%	14%	0%		4%
	2< z or p ≤3	0%	0%	0%		4%	0%	0%	<u> </u>	9%	0%	0%		0%
	z or p >3	6%	6%	4%		0%	5%	0%	<u> </u>	0%	0%	0%	ļ	0%
6a	z or p ≤1	ļ				95%	82%	100%	22				ļ	100%
	1< z or p ≤2	 		↓		5%	18%	0%		ļ	<u> </u>	 		0%
	2< z or p ≤3	 	 		 	0%	0%	0%	 					0%
	z or p >3	 	ļ			0%	0%	0%	 	 		+	 	0%
7	z or p ≤l	43%	64%	73%	15	67%	47%	87%	15	50%	83%	68%	24	93%
	1< z or p ≤2	36%	7%	0%	ļ	7%	20%	7%		21%	9%	32%		7%
	2< z or p ≤3	14%	7%	13%		7%	7% 27%	7%	-	17%	4%	0%		0%
	z or p >3	======			- 24		-		34	27%	77%	97%	30	58%
- 8	z or p ≤1	67%	10%	50% 67%	24	77%	67% 19%	83% 13%	24	37%	13%	3%	30	25%
	1< z or p ≤2 2< z or p ≤3		0%	0%		9%	5%	4%	 	37%	7%	0%	 	4%
	z or p ≤3	0%	10%	0%	+	5%	10%	0%	 	0%	3%	0%	 	0%

	mmary of percent a													
9	z or p ≤l	50%	7%	73%	15	36%	21%	79%	14	0%		67%	3	93%
	1< z or p ≤2	29%	50%	27%		36%	36%	21%		0%		33%		0%
	2< z or p ≤3	7%	21%	0%		7%	14%	0%		100%		0%		0%
	z or p >3	14%	21%	0%		21%	29%	0%		0%		0%		7%
10	z or p ≤1	29%	30%	82%	22	38%	55%	82%	22	33%	33%	73%	30	
	l< z or p ≤2	29%	40%	9%		38%	23%	5%		17%	23%	23%		
	2< z or p ≤3	19%	10%	5%		14%	9%	5%		7%	3%	0%		ļ
	z or p >3	19%	20%	5%		10%	14%	9%		43%	40%	3%		<u> </u>
11	z or p ≤1	85%	1 75%	78%	32	62%	59%	97%	32	63%	63%	90%	21	88%
	1 < z or p ≤2	10%	26%	22%	ļi	34%	41%	3%		5%	26%	10%		13%
	2< z or p ≤3	5%	0%	0%	ļ	3%	0%	0%		11%	11%	0%		0%
	z or p >3	0%	0%	0%		0%	0%	0%		21%	0%	0%		0%
12	z or p ≤1	73%	40%	86%	28	74%	52%	82%	28	23%	28%	48%	46	79%
	1< z or p ≤2	20%	47%	14%		13%	43%	11%	L	15%	42%	35%		18%
	2< z or p!≤3	7%	7%	0%		9%	0%	4%		13%	14%	13%		4%
	z or p >3	7%	7%	0%	<u> </u>	4%	4%	4%		49%	17%	4%	1	0%
13	z or p ≤1	95%	100%	100%	19	79%	47%	100%	19	71%	76%	100%	22	1009
	l < z or p <u>≤</u> 2	5%	0%	0%		21%	53%	0%		19%	24%	0%		0%
	2< z or p ≤3	0%	0%	0%		0%	0%	0%		10%	0%	0%		0%
	z or p >3	0%	0%	0%		0%	0%	0%		0%	0%	0%		0%
14	z or p ≤1	82%	55%	100%	11	82%	100%		11					
	1< 2 or p ≤2	18%	45%	0%		18%	0%							
	2< z or p ≤3	0%	0%	0%		0%	0%							
	z or p >3	0%	0%	0%	<u>L</u>	0%	0%							
15	z or p ≤1					72%	69%	81%	18					889
	1< z or p ≤2					11%	13%	13%						0%
	2< z or p[≤3					6%	0%	0%						13%
	z or p >3					11%	19%	6%						. 0%
16	z or p∣≤l					100%	1	100%	2	100%	60%	67%	6	
	1< z or p ≤2					0%		0%		0%	40%	33%		
	2< z or p ≤3					0%		0%		0%	0%	0%		
	z or p >3					0%		0%		0%	0%	0%		
17	z or p ≤1				T	87%	92%	85%	15	85%	100%		13	92%
	1< z or p ≤2					7%	8%	8%		8%	0%			0%
	2< z or p ≤3					0%	0%	8%		8%	0%			8%
	z or p >3					7%	0%	0%		0%	0%			0%
18	z or p ≤l		1						T	25%	25%	50%	4	
	1 < z or p ≤2		1	1						25%	25%	25%		
	2< z or p ≤3									25%	0%	0%		
	z or p >3		1							25%	50%	25%		
19	z or p ≤1		7		T	83%	73%		12	0%	0%	33%	15	
	1< z or p ≤2					0%	18%	1		20%	13%	7%		
	2< z or p ≤3					8%	0%	1		27%	13%	60%		
	tz or p⊳3		†			8%	9%			53%	73%	0%		

20	z or p ≤1	1				21%	29%	23%	14	14%	68%	59%	22	700
20					-	36%		15%	14				22	7%
	1< z or p ≤2				<u> </u>		29%			19%	18%	36%		13%
	2< z or p ≤3					7%	7%	23%		38%	9%	5%		47%
	z or p >3					36%	36%	38%		29%	5%	0%		33%
21	z or p ≤l					0%	23%	33%	14	7%	92%	78%	18	75%
	1< z or p ≤2					31%	54%	67%		7%	8%	22%		25%
	2< z or p ≤3					54%	15%	0%		29%	0%	0%		0%
	z or p >3					15%	8%	0%		57%	0%	0%		0%
22	z or p ≤1					78%	100%	100%	19	28%	95%	92%	26	89%
	l < z or p ≤2					22%	0%	0%		36%	5%	8%		11%
	2< z or p\≤3					0%	0%	0%		36%	0%	0%		0%
	z or p >3					0%	0%	0%		0%	0%	0%		0%
23	z or p ≤1					61%	68%	97%	31					90%
	1< z or p ≤2					19%	19%	3%						6%
	2< z or p ≤3					3%	3%	0%						0%
	z or p >3					16%	10%	0%						3%
total	z or p ≤1	70%	62%	71%	313	65%	59%	81%	424	47%	65%	78%	410	84%
	1< z or p ≤2	19%	29%	23%		18%	28%	11%		18%	19%	14%		10%
	2< z or p ≤3	6%	3%	3%		8%	3%	5%		18%	5%	5%		4%
	z or p >3	5%	7%	2%		8%	10%	3%		16%	11%	3%		2%

ng/g (reported as if three figures were	e significant)	·		1							
	Trial I			results	Trial II			results	From 1649a Ce	rtificate of Ana	lysis
	average	stdev	n	not used	average	stdev	n	not used	conc.	95%CL	type
naphthalene	579	376	8	4 & 12	1068	1016	14	19	no target		Target
fluorene	208	123	14	5	248	117	12	19	230	50	Reference
phenanthrene	4182	908	15		4160	556	14	19	4140	370	Certified
anthracene	564	2 9 9	14		597	299	13	19	432	82	Certified
1-methylphenanthrene	402	15	3		472	35	8		370	40	Reference
2-methylphenanthrene	733	81	3		1045	307	3		730	120	Reference
3-methylphenanthrene	528	22	2		686	116	3		500	50	Reference
9-methylphenanthrene	342		1		475		1		no target		Target
9+4-methylphenanthrene	\$70		1		406	70	2		no target		Target
retene	144	32	3	20	183	99	5		no target		Target
4H-cyclopenta(def)phenanthrene	327		1		358		1		320	60	Reference
fluoranthene	6586	1320	15		6766	1542	15		6450	180	Certified
pyrene	5248	788	15		5742	1321	15		5290	250	Certified
benzo[ghi]fluoranthene	1172	531	3	23	870	17	3		880	20	Reference
cyclopenta[cd]pyrene			8		185	25	8		no target		Target
benz[a]anthracene	2393	553	15		2286	339	13		2210	73	Certified
chrysene	3670	973	13		4176	1811	13		3049	60	Certified
triphenylene	1243	270	3		1223	99	2		1357	54	Certified
chrysene+triphenylene	1243	546	5		5303	1998	5		no target		Target
benzo[b]fluoranthene	5631	1403	13		6218	1998	13		6450	640	Certified
benzo[j]fluoranthene	1724	1389	3		1701	195	3	19	1500	400	Reference
benzo[k]fluoranthene	1961	557	13		2305	625	13		1913	31	Certified
benzo[b+j+k]fluoranthene	9851	556	3		13151	6677	2		no target		Target
benzo[b+k]fluoranthene	9543		1				S		no target		Target
benzo[b+j]fluoranthene	7610		1				3		no target		Target
benzo[e]pyrene	3246	482	13		3134	563	3	19	3090	190	Certified
benzo[a]pyrene	2640	556	15		2466	446	15		2509	87	Certified
perylene	615	81	15		655	37	8		646	75	Certified
indeno[1,2,3-cd]pyrene	2991	553	15		4160	1106	15	20	3180	720	Certified
benzo[ghi]perylene	3754	339	13		4048	1151	13		4010	910	Certified
dibenz[a,h]anthracene	557	456	13	9 & 23	501	201	13		288	23	Certified
dibenz[a,c]anthracene	213	17	2		222	99	3		200	25	Certified
dibenz[$a,h+a,c+a,j$]anthracene	774		1		358		1		no target		Target
dibenz[a,h+a,c]anthracene	406		1		585	339	2		no target		Target
benzo[b]chrysene	291	21	3		265	99	3		315	13	Certified
coronene	3724	1309	5		4655	3467	5		no target		Target
dibenzo[a,e]pyrene	659		1		598				630	80	Reference

Table 15 cont.	Trial I			results	Trial II			results	Value Assignm	nent Based on T	rials I and II
	average	stdev	n	not used	average	stdev	n	not used	conc.	95%CL	reference
9-nitroanthracene	18.3	14.2	3		34.3	12.1	3		33.4	6.1	5
1-nitropyrenc	18.3	9.9	3		68.5	3.5	3		70.9	4.3	5
2-nitrofluoranthene	283	58	3		315	61	0		313	38	5
3-nitrofluoranthenc	10.8		1		16.6	16.9	2				
7-nitrobenz[a]anthracene	23.1	5.6			24.9	10.0	•		27.8	6.7	5
6-nitroehrysene	3.49	0.56	2		3.85	0.91	2		4.01	0.52	5
6-nitrobenz[a]pyrene	65.1	80.7	2		7.29		1				
n -C20	1368	305	9		1772	1846	0	10			
n-C21			1		3264	1289	0	10			
n -C22	6549	4029	5	<u> </u>	4493	1118	7	10			
n -C23			3		16143	7789	5	10	1		
n -C24	31998	18721	· ·		25965	7789	9	10			
n -C25	31330	10/21	0		60533	27858	5	10	1		
n-C26	109891	86577	0		72476	31995	0	10			
n-C27			0	-	59090	39671	•	10			
n-C28	72034	57879	0		37656	16316	9	10			
n-C29	72054	3,015	0		56226	32734	•	10	1		
n -C30	42063	39049	9		24742	13697	9	10	-	-	
n-C31	12005	3,01,5	0		36617	26114	5	10	1		-
n -C32	28573	31924	8		16858	7627	0	1	1		
n -C36	6368	4982	3	1	10050	7027	0				-
n -C40	0300	1702	0		4875		3	1			
1-octadecenc			0		910		3				
ABB-20R-C28-methylcholestane	3650	1329	4		1.0		0		1		
20R-5a(H), 14a(H), 17b(H)-cholestand	6344	4117	3				0				-
17a(H)-22, 29, 30-trisnorhopanc	3161	1651	0		2494	458	0	<u> </u>			
17a(H), 21b(H)-29-norhopane	16181	6546	0		7026	7789	2			1	
17a(H), 21b(H)-29-hopanc	20555	14312	5		12245	5367	•				
20R-5a(H), 14b(H), 17b(H)-eholestane			Û		2432	296	2				
20S,5a(H),14b(h),17b(H)-cholestane			0		2733		•				
20R-5a(H), 14a(H), 17a(H)-cholestane			0		2006	1404	2				
20R,5a(H),14b(H),17b(H)-ergostane		1	Û		1346	124	2				1
22S-17a(H), 21b(H)-30-homohopane	7332	4257	5		5297	5001	2				
22R-17a(H), 21b(H)-30-homohopane	5762	3628	5		3777	3261	2				
22S-17a(H), 21b(H)-30-bishomohopar		2427	5		3353	3084	2				<u> </u>
22R-17a(H), 21b(H)-30-bishomohopa	3601	1552	5		2095	1846	2				
pristane	536	134	2		433	458	0	10			
phytane	392	58	2		543	206	0	12			
cholcsterol	13650		1				0	-			
benzanthrone	10356	20734	5	20	7497		1				
9-fluorenone	1886	1354	•		1479		3				
anthroquinone	831	27	2	-	1837		1				
benz[a]anthracene-7, 12-dionc	5714	5104	3	20	4005	1410	3				
isopimarie acid	77	5101	0		2340		1				
hexadecanoic acid	308568	161606	3		350170	31933	2				
4-ethylsyringol	300308	101000	0		283	31733	1				
propionylsyringol			0		148		3				
butyrylsyringol			0		206		1	-			,
levoglucosan	28800	-	1		53447	21236	2				

ng/g (reported as if three figures	were significant)			
	Assigned Value	Uncertainty	Reference	
naphthalene	520	200	5	
fluorene	142	2	5	
phenanthrene	2020	120	5	
anthracene	258	58	5	
l-methylphenanthrene	350	130	6	
2-methylphenanthrene	620	170	6	
3-methylphenanthrene	440	130	6	
fluoranthene	4940	160	5	
pyrene	3310	210	5	
benzo[ghi]fluoranthene	1095	65	6	
benz[a]anthracene	1690	160	5	
chrysene	4780	640	6	
triphenylene	1167	49	6	
benzo[b]fluoranthene	5920	400	5	
benzo[j]fluoranthene	2420	330	6	
benzo[k]fluoranthene	2290	170	5	
benzo[e]pyrene	4130	\$20	6	
benzo[a]pyrene	2294	62	5	
perylene	580	67	6	
indeno[1,2,3-cd]pyrene	4268	16	5	
benzo[ghi]perylene	5118	72	5	
dibenz[a,h]anthracene	410	190	6	
dibenz[a,c]anthracene	249	32	6	
benzo[b]chrysene	292	13	6	
coronene	2180	820	6	
dibenzo[a,e]pyrene	249	42	6	
9-nitroanthracene	126	8	6	
1-nitropyrene	126	21	6	
2-nitrofluoranthene	346	3	5	
3-nitrofluoranthene	3.11	0.68	6	
7-nitrobenz[a]anthracene	36	11	6	
6-nitrochrysene	2.33	0.34	6	

Appendix A Description of Materials and Reporting Instructions Accompanying Samples

Intercomparison Exercise: Air Particulate Extract I and Air Particulate I Description of Materials and Instructions

Intercomparison Exercise Materials:

QA01EXT01 (Air Particulate Extract I) QA01APT01 (Air Particulate I)

For the QA01EXT01 (Air Particulate Extract I), each of the five ampoules contains approximately 1.2 mL of Air Particulate Extract I. This extract was prepared by extracting Air Particulate I (also included in the shipment) using dichloromethane. Each 1 mL of extract represents 0.1 g of Air Particulate I. This material has not been enriched or spiked. Each 2 mL ampoule is labeled with an individual ampoule number as well as the above name.

For QA01APT01 (Air Particulate I), each bottle contains approximately 0.5 g of Air Particulate I. This material is a bulk portion of SRM 1649a that has been sieved to <63 μ m. This material has also not been enriched or spiked. Each bottle is labeled with an individual jar number as well as the above name.

In addition, three concurrent analyses of SRM 1649a, Urban Dust, are recommended. One bottle containing approximately 0.5 g of this material is included in the shipment.

Instructions for Use:

Please analyze three samples of Air Particulate Extract I, Air Particulate I, and SRM 1649a, using your laboratory's and/or program's analytical protocols, for the concentrations (mass/mass) of the analytes listed in Table 1. If your laboratory is not analyzing some of these compounds in the PM 2.5 program, then you do not need to report values for this exercise. There is space provided at the bottom of the spreadsheet to report additional analytes of interest to your program. Please provide data for all of the compounds that your laboratory is quantifying in the PM 2.5 program. All data received will be summarized.

The concentration range for some of the most abundant PAHs of interest (phenanthrene, fluoranthene, pyrene, and benzo[a]pyrene) in SRM 1649a is approximately 2.5 mg/kg to 6.5 mg/kg. Note that the PAH concentrations in Air Particulate I are expected to be in a similar range.

Reporting of Results:

Please report one result, as if three figures were significant, for each of the analytes in each of the three replicates of the Air Particulate Extract I, Air Particulate I, and SRM 1649a. Report results in units of ng/g solution for the extract and ng/g as received for the air particulate samples. If your analysis of the extract is based on a mass /volume basis, please convert to mass/mass by using the density of the solution. Report the density that was used for the conversion. Report the date of measurement of each sample in the requested m/d/y format.

We recognize that the reported concentrations for some of the requested determinands will probably include concentrations of compounds reported to coelute with the determinand of interest with methods commonly in use. Please note at the bottom of your table of reported results if any coelution qualifiers are applicable to your data. Please note that any changes you make to the column or row headings within the tables will **not** be seen by the coordinators because only the table entries and comments at the bottom of the tables are automatically transferred to the exercise database.

We prefer that concentration values be reported for each analyte determined. If the measured concentration is below your typical reporting concentration for an analyte in a particular matrix, you can report the number and list the appropriate detection limit, quantification limit, etc. at the bottom of the data table. However, if you need to report non-numerical data please use the following conventions:

NA "Not analyzed", "not determined"

<"value" "Less than specified concentration", e.g., <8 ng/g

Other "Other"; add note of explanation at end of data table, e.g., interference DL "Below detection limit" may be used, however, <"value" is preferable

Do not use negative numbers or parentheses to indicate "less than detection limits".

The enclosed floppy diskette (DOS format) contains an EXCEL file, APT01.xls. If you have any software/hardware conversion problems, please contact Michele Schantz. The data file templates also include places for you to list the surrogate/internal standards and type of calibration curve used, and to provide a brief description of the analyses. Please **do not** add Aspaces≅ before entering numbers in the table cells and enter them as "numbers" not as "labels". Please **do not** insert any columns or rows **within** the table in the data file. If you wish to include additional data and/or other information or comments, you may add it to the bottom of the data table in the diskette file or send it in hard copy. A printout of the data file format is shown in Table 2.

Submit your results either via diskette file or as an attached file via e-mail (preferred) to:

Michele M. Schantz NIST 100 Bureau Drive Stop 8392 Gaithersburg, MD 20899-8392

E-mail:

michele.schantz@nist.gov

The deadline for receipt of data is April 30, 2001.

Further Information:

If you need further information, please contact Michele at the address listed above or at the following

phone numbers:

Phone: (301)975-3106

FAX: (301)977-0685

Table 1: Analytes of Interest in NIST Intercomparison Exercise Program for Organics in PM2.5 Air Particulate Matter

Polycyclic aromatic hydrocarbons (PAHs)

naphthalene

benzo[*j*]fluoranthene

phenanthrene anthracene

1-methylphenathrene 2-methylphenanthrene

3-methylphenanthrene

9-methylphenanthrene

retene

4H-cyclopenta(def)phenanthrene

fluoranthene

pyrene

benzo[ghi]fluoranthene cyclopenta[cd]pyrene

benz[a]anthracene

chrysene triphenylene benzo[b]fluoranthene fluorene

benzo[k]fluoranthene benzo[e]pyrene

benzo[a]pyrene

perylene

indeno[1,2,3-cd]pyrene benzo[ghi]perylene dibenz[a,h]anthracene dibenz[a,c]anthracene

benzo[b]chrysene

coronene

dibenzo[a,e]pyrene

Nitro-PAHs

9-nitroanthracene

1-nitropyrene

2-nitrofluoranthene

3-nitrofluoranthene

7-nitrobenz[a]anthracene

6-nitrochrysene

6-nitrobenz[*a*]pyrene

Alkanes

n-C20

n-C22

n-C24

n-C26

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*n*-C28

*n*-C30

*n*-C32

#### Alkenes

squalene

1-octadecene

*n*-C36

*n*-C40

n-C44

#### Hopanes, Cholestanes (Diasteranes, Steranes)

22, 29, 30-trisnorhopane 17a(H), 21b(H)- 29-norhopane 17a(H), 21b(H)- 29-hopane 20R-5a(H), 14a(H), 17b(H)-cholestane ABB-20R-C28 methylcholestane 22S-17a(H),21b(H)-30-homohopane 22R-17a(H),21b(H)-30-homohopane

22S-17a(H),21b(H)-30-bishomohopane 22R-17a(H),21b(H)-30-bishomohopane

pristane phytane

#### Sterols

cholesterol stigmasterol

#### Carbonyls (ketones, aldehydes)

benzanthrone
9-fluorenone
anthroquinone
benz[a]anthracene-7,12-dione
G-nonanoic lactone
G-decanolactone

9-anthraldehyde syringaldehyde

#### Acids, Alkanoic acids, Resin Acids

pimaric acid
isopimaric acid
pinic acid
pinonic acid
hexadecanoic acid
norpinic acid
norpinonic acid
nopinone
Pinionaldehyde
caronaldehyde
Phenols and methoxyphenols
syringol

4-ethylsyringol isoeugenol propionylsyringol butyrylsyringol guaiacol 4-methylguaiacol 4-ethylguaiacol

#### Sugars

levoglucosan

Additional analytes quantified should be added to the bottom of the spreadsheet. These data will also be summarized.

Table 2. Diskette Data File Format (File: APT01.\*)

| NIST Intercomparison Exercise Program for Organics in PM2.5 Air Particulate Matter Sample: QA01EXT01 - Air Particulate Extract I Sample: QA01APT01 - Air Particulate I                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Please fill in all blanks; Use requested units of concentration; Report results as if 3 figures were significant DO NOT INSERT ROWS OR COLUMNS WITHIN THIS TABLE. DO NOT MOVE CELLS.  - If necessary, add additional data/information at the end of the table.  - Use one of the following if no concentration is reported for an analyte.  NA = Not analyzed/determined; <"conc" = 'detection limit conc.' Other = other, explain in a note at end of table (DL = "below detection limit" may be used, but <"conc", e.g. <8, is preferable.)  Do not use parentheses or negative numbers to indicate "less than detection limit". |                |
| Reporting Date (m/d/y): Laboratory: Submitted by: BRIEF DESCRIPTION OF PROCEDURES USED:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                |
| Approximate amount of sample extracted: AP Extract I  By ; or  By as received  SRM 1649a  8, as                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | g, as received |
| Extraction method: Extraction solvent: Extraction time: Extraction - other:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                |
| Sample extract cleanup method:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                |
| Analytical method used (e.g., GC-FID, GC-ECD):  Analyt. Instr. Column Phase Col. Length, m Col. i.d., mm Col. film thickness, µm  PAH  Nitro PAH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>E</b> 1 1   |
| Alkanes and Alkenes Hopanes, Cholestanes, Sterols Carbonyls and Acids Phenols Sugars                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 11111          |
| Method of quantitation (IS = internal standard, ES = external standard): $PAH = \frac{PAH}{Nirro\ PAH}$ Alkanes and Alkenes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                |
| Hopanes, Cholestanes, Sterols  Carbonyls and Acids Phenols Sugars                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                |
| IF internal standard method was used, please complete the following section: Identity of internal standard/surrogates used that were: Added PRJOR to extraction of sample: PAH Nitro PAH                                                                                                                                                                                                                                                                                                                                                                                                                                           |                |

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| Air Part. Extract I Air Part. Extract I Air Part. Extract I                                         |
| Sample 1 Sample 2 Sample 3                                                                          |

| Air Part. Extract   Sample 3 (ng/g) Air Part. Extract   Sample 3 Air Part. Extract   Sample 3 (ng/g)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           | Air Part, Extract I Sample 3                 | Air Part. Extract I Sample 3 (ng/g)                                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------|---------------------------------------------------------------------------------------------|
| Air Particulate I Sample 2 Sample 1 Sample 2 Sample 1 Sample 2 Sample 1 Sample 2 Sample 1 Sample 2 Sample 1 Sample 2 Sample 1 Sample 2 Sample 1 Sample 2 Sample 1 Sample 2 Sample 1 Sample 2 Sample 2 Sample 2 Sample 2 Sample 2 Sample 2 Sample 2 Sample 2 Sample 2 Sample 2 Sample 3 Sample 3 Sample 4 Sample 4 Sample 6 Sample 8 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sam |           | Air Particulate 1 Air Particulate 1 Sample 2 | Air Particulate I Air Particulate I Sample 2 Sample 2 (ng/g as received) (ng/g as received) |
| eived) (ng/g as received)  sample 3  sample 3  late I Air Particulate I  sample 3  sample 3  sample 3  sample 3  seived) (ng/g as received)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |           | 2 Sample 3                                   | is 2 Sample 3 Sample 3 eived) (ng/g as received)                                            |
| SRM 1649a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | CON 16402 | Sample I                                     | SRM 1649a Sample I (ng/g as received)                                                       |
| SRM 1649a Sample 2 (ng/g as received)  SRM 1649a Sample 2 Sample 2  Sample 2  (ng/g as received) (ng/g as received)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 00971 Md3 | Sample 2                                     | SRM 1649a Sample 2 (ng/g as received)                                                       |
| SRM 1649a Sample 3 (ng/g as received)  SRM 1649a Sample 3 Sample 3 (ng/g as received)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | SRM 1649a | Sample 3                                     | SRM 1649a Sample 3 (ng/g as received)                                                       |

| pimaric acid isopimaric acid pinic acid pinonic acid hexadecanoic acid norpinic acid norpinonic acid nopinone pinionaldehyde caronaldehyde |                                           |                                           |                                           |                                                     |                                                     |                                                     |                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|-----------------------------------------|
| Phenois                                                                                                                                    | Air Part. Extract I                       | Air Part. Extract I                       | Air Part. Extract I                       | Air Particulate I                                   | Air Particulate I                                   | Air Particulate I                                   | SRM 1649a                               |
| Analyst (Initials) Date(s) of measurements (m/d/y) Sample Jar number                                                                       | Sample 1                                  | Sample 2                                  | Sample 3                                  | Sample 1                                            | Sample 2                                            | Sample 3                                            | Sample 1                                |
|                                                                                                                                            | Air Part. Extract I<br>Sample 1<br>(ng/g) | Air Part. Extract I<br>Sample 2<br>(ng/g) | Air Part. Extract I<br>Sample 3<br>(ng/g) | Air Particulate I<br>Sample 1<br>(ng/g as received) | Air Particulate I<br>Sample 2<br>(ng/g as received) | Air Particulate I<br>Sample 3<br>(ng/g as received) | SRM 1649<br>Sample 1<br>(ng/g as receiv |
| syringol 4-ethylsyringol isoeugenol propionylsyringol butyrylsyringol guaiacol 4-methylguaiacol 4-ethylguaiacol                            | (119/15)                                  | (19 5)                                    | (195)                                     | (ing g as received)                                 | (ing g as received)                                 | (ligg as received)                                  | (ligg as received)                      |
| Sugars                                                                                                                                     | Air Part. Extract I                       | Air Part. Extract I                       | Air Part. Extract I                       | Air Particulate I                                   | Air Particulate I                                   | Air Particulate I                                   | SRM 1649                                |
| Analyst (Initials) Date(s) of measurements (m/d/y) Sample Jar number                                                                       | Sample 1                                  | Sample 2                                  | Sample 3                                  | Sample 1                                            | Sample 2                                            | Sample 3                                            | Sample 1                                |
| levoglucosan                                                                                                                               | Air Part. Extract I Sample I (ng/g)       | Air Part. Extract I Sample 2 (ng/g)       | Air Part. Extract I Sample 3 (ng/g)       | Air Particulate I Sample I (ng/g as received)       | Air Particulate I Sample 2 (ng/g as received)       | Air Particulate I Sample 3 (ng/g as received)       | SRM 1649<br>Sample 1<br>(ng/g as receiv |
| Did you use a density conversion for the If yes, density value used?                                                                       | ne extract?                               | yes                                       |                                           | no<br>g/mL                                          |                                                     |                                                     |                                         |

Any additional data/infomration should be added here.

## Intercomparison Exercise: PM 2.5 Interim RM Description of Materials and Instructions

#### **Intercomparison Exercise Materials:**

#### PM 2.5 Interim RM

Each bottle contains approximately 100 mg of the PM 2.5 Interim Reference Material (RM). This material was collected in Baltimore City with an inlet designed to collect particles less than 1.7  $\mu$ m. This material has not been enriched or spiked. Each bottle is labeled with an individual jar number as well as the above name.

In addition, one bottle of SRM 1649a containing approximately 0.5 g is included in the shipment.

#### **Instructions for Use:**

Please analyze three samples each of PM 2.5 Interim RM and SRM 1649a, using your laboratory's and/or program's analytical protocols, for the concentrations (mass/mass) of the analytes listed in Table 1. If your laboratory is not analyzing some of these compounds in the PM 2.5 program, then you do not need to report values for this exercise. There is space provided at the bottom of the spreadsheet to report additional analytes of interest to your program. Please provide data for all of the compounds that your laboratory is quantifying in the PM 2.5 program. All data received will be summarized.

The concentration range for some of the most abundant PAHs of interest (phenanthrene, fluoranthene, pyrene, and benzo[a]pyrene) in SRM 1649a is approximately 2.5 mg/kg to 6.5 mg/kg. Note that based on a preliminary analysis, the PAH concentrations in PM 2.5 Interim RM are expected to be in a similar range.

#### **Reporting of Results:**

Please report one result, as if three figures were significant, for each of the analytes in each of the three replicates of the PM 2.5 Interim RM and SRM 1649a. Report results in units of ng/g as received for the air particulate samples. Be sure to keep the bottles well sealed and bring to room temperature before weighing if stored in the refrigerator or freezer. Report the date of measurement of each sample in the requested m/d/y format.

We recognize that the reported concentrations for some of the requested analytes will probably include concentrations of compounds reported to coelute with the analyte of interest with methods commonly in use. Please note at the bottom of your table of reported results if any

coelution qualifiers are applicable to your data. Please note that any changes that you make to the column or row headings **within** the tables will **not** be seen by the coordinators because only the table entries and comments at the bottom of the tables are automatically transferred to the exercise database. Please do not add or delete lines from the spreadsheet.

We prefer that concentration values be reported for each analyte determined. If the measured concentration is below your typical reporting concentration for an analyte in a particular matrix, you can report the number and list the appropriate detection limit, quantification limit, etc. at the bottom of the data table. However, if you need to report non-numerical data please use the following conventions:

NA "Not analyzed", "not determined"

<"value" "Less than specified concentration", e.g., <8 ng/g

Other "Other"; add note of explanation at end of data table, e.g., interference DL "Below detection limit" may be used, however, <"value" is preferable

Do not use negative numbers or parentheses to indicate "less than detection limits".

An EXCEL file, APT02.xls, has been sent as an e-mail attachment to you. If you have any software/hardware conversion problems, please contact Michele Schantz. The data file templates also include places for you to list the surrogate/internal standards and type of calibration curve used, and to provide a brief description of the analyses. Please **do not** add Aspaces≅ before entering numbers in the table cells and enter them as "numbers" not as "labels". Please **do not** insert any columns or rows **within** the table in the data file. If you wish to include additional data and/or other information or comments, you may add it to the bottom of the data table in the diskette file or send it in hard copy. A printout of the data file format is shown in Table 2.

Submit your results as an attached file via e-mail (preferred) to:

E-mail: michele.schantz@nist.gov

The deadline for receipt of data is July 31, 2002.

#### Further Information:

If you need further information, please contact Michele at the e-mail listed above or at the

following phone numbers: Phone: (301)975-3106

FAX: (301)977-0685

### Table 1: Analytes of Interest in the Intercomparison Exercise Program for Organics in PM2.5 Air Particulate Matter

#### Polycyclic aromatic hydrocarbons (PAHs)

naphthalene fluorene phenanthrene anthracene

1-methylphenathrene 2-methylphenanthrene 3-methylphenanthrene 9-methylphenanthrene

retene

4H-cyclopenta(def)phenanthrene

fluoranthene

pyrene

benzo[ghi]fluoranthene cyclopenta[cd]pyrene benz[a]anthracene

chrysene triphenylene benzo[b]fluoranthene
benzo[j]fluoranthene
benzo[k]fluoranthene
benzo[e]pyrene
benzo[a]pyrene
perylene
indeno[1,2,3-cd]pyrene
benzo[ghi]perylene
dibenz[a,h]anthracene
dibenz[a,c]anthracene
benzo[b]chrysene
coronene

dibenzo[a,e]pyrene

#### Nitro-PAHs

9-nitroanthracene

1-nitropyrene

2-nitrofluoranthene

3-nitrofluoranthene

7-nitrobenz[a]anthracene

6-nitrochrysene

6-nitrobenzo[a]pyrene

#### NIIIO-PAHS

n-C20 n-C22 n-C24 n-C26 n-C28 n-C30

Alkanes

*n*-C32 *n*-C44

n-C21 n-C23 n-C25 n-C27 n-C29 n-C31 n-C40

#### Alkenes

squalene

1-octadecene

#### Hopanes, Cholestanes (Diasteranes, Steranes)

22, 29, 30-trisnorneohopane

17a(H), 21b(H)- 29-norhopane

17a(H), 21b(H)- hopane

20R,5a(H),14b(H),17b(H)-cholestane

20S,5a(H),14b(H),17b(H)-cholestane

20R,5a(H),14a(H),17a(H)-cholestane

20R,5a(H),14b(H),17b(H)-ergostane

22S,17a(H),21b(H)-30-homohopane

22R,17a(H),21b(H)-30-homohopane 22S,17a(H),21b(H)-30-bishomohopane

22R,17a(H),21b(H)-30-bishomohopane

pristane

phytane

#### Sterols

cholesterol stigmasterol

#### Carbonyls (ketones, aldehydes)

benzanthrone

9-fluorenone

anthroquinone

benz[a]anthracene-7,12-dione

G-nonanoic lactone

G-decanolactone

9-anthraldehyde

syringaldehyde

#### Acids, Alkanoic acids, Resin Acids

pimaric acid

isopimaric acid

pinic acid

pinonic acid

hexadecanoic acid

norpinic acid

norpinonic acid

nopinone

pinionaldehyde caronaldehyde

#### Phenols and methoxyphenols

syringol
4-ethylsyringol
isoeugenol
propionylsyringol
butyrylsyringol
guaiacol
4-methylguaiacol
4-ethylguaiacol

#### Sugars

levoglucosan

Additional analytes quantified should be added to the bottom of the spreadsheet. These data will also be summarized.

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| APT02.*)         |
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|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                         | ည်                                                 |                                                                             |                                | Col. film thickness, µm                                                                                           |                                    |                                                                                                                                                                              |
| Intercomparison Exercise Program for Organics in PM 2.5 Air Particulate Matter<br>Sample: PM 2.5 Interim RM | Please fill in all blanks; Use requested units of concentration; Report results as if 3 figures were significant  DO NOT INSERT ROWS OR COLUMNS WITHIN THIS TABLE. DO NOT MOVE CELLS.  ecessary, add additional data/information at the end of the table.  e one of the following if no concentration is reported for an analyte:  NA = Not analyzed/determined; <"conc" = <detection "less="" (dl="below detection limit" <"conc",="" <8,="" a="" at="" be="" but="" conc.;="" detection="" do="" e.g.,="" end="" explain="" in="" indicate="" is="" limit="" limit".<="" may="" negative="" not="" note="" numbers="" of="" or="" other="other," parentheses="" preferable.)="" table="" td="" than="" to="" use="" used,=""><td></td><td>SRM 1649a_</td><td></td><td></td><td>Col. i.d., mm C</td><td></td><td></td></detection>                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                         | SRM 1649a_                                         |                                                                             |                                | Col. i.d., mm C                                                                                                   |                                    |                                                                                                                                                                              |
|                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                         | g, as received                                     |                                                                             |                                | Col. Length, m                                                                                                    |                                    |                                                                                                                                                                              |
| Program for Organics in PM<br>Sample: PM 2.5 Interim RM                                                     | its of concentration; F. CUMNS WITHIN THI of the table. I for an analyte: iion limit conc.; Other = conc., e.g., <8, is preferences, the conc. of the conc. of the conc.; e.g., <8, is preferences.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                         |                                                    |                                                                             |                                | Column Phase                                                                                                      |                                    | ndard):                                                                                                                                                                      |
| ison Exercise Prog                                                                                          | nks; Use requested un<br>ERT ROWS OR COL<br>Unformation at the end<br>oncentration is reported<br>red; <"conc" = <a href="celect">celect</a><br>t" may be used, but <"c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | RES USED:                                                                               | Interim RM                                         |                                                                             |                                | C-ECD): Analyt. Instr. H                                                                                          | ds sis                             | dard, ES = external star                                                                                                                                                     |
| Intercompar                                                                                                 | Please fill in all blanks; Use requested units of concentration; Report DO NOT INSERT ROWS OR COLUMNS WITHIN THIS TAB  - If necessary, add additional data/information at the end of the table.  - Use one of the following if no concentration is reported for an analyte:  NA = Not analyzed/determined; <"conc" = <detection "less="" (dl="below detection limit" <"conc",="" <8,="" be="" but="" conc.;="" detection="" do="" e.g.,="" indicate="" is="" limit="" limit."<="" may="" negative="" not="" numbers="" or="" other="other," parentheses="" preferable.)="" td="" than="" to="" use="" used,=""><td>Reporting Date (m/d/y): Laboratory: Submitted by: BRIEF DESCRIPTION OF PROCEDURES USED:</td><td>Approximate amount of sample extracted: Interim RM</td><td>nod:<br/>ent:<br/>::<br/>ier:</td><td>Sample extract cleanup method:</td><td>Analytical method used (e.g., GC-FID, GC-ECD):  A PAH Nitro PAH Alkanes and Alkenes Honanes. Cholestanes. Sterols</td><td>Carbonyls and Acids Phenols Sugars</td><td>Method of quantitation (IS = internal standard, ES = external standard):  PAHs PAHs Nitro-PAHs Alkanes and Alkenes Hopanes, Cholestanes, Sterols Carbonyls and Acids Phenols</td></detection> | Reporting Date (m/d/y): Laboratory: Submitted by: BRIEF DESCRIPTION OF PROCEDURES USED: | Approximate amount of sample extracted: Interim RM | nod:<br>ent:<br>::<br>ier:                                                  | Sample extract cleanup method: | Analytical method used (e.g., GC-FID, GC-ECD):  A PAH Nitro PAH Alkanes and Alkenes Honanes. Cholestanes. Sterols | Carbonyls and Acids Phenols Sugars | Method of quantitation (IS = internal standard, ES = external standard):  PAHs PAHs Nitro-PAHs Alkanes and Alkenes Hopanes, Cholestanes, Sterols Carbonyls and Acids Phenols |
|                                                                                                             | - If nec<br>- Use o<br>N<br>(T                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Reporting Date (m/d/y):<br>Laboratory:<br>Submitted by:<br>BRIEF DESCRIPTIO             | Approximate ar                                     | Extraction method: Extraction solvent: Extraction time: Extraction - other: | Sample extract                 | Analytical metl                                                                                                   |                                    | Method of qua                                                                                                                                                                |

| Alkanes and Alkeres  I lapanes, Cholestanes, Steeds  Carbonys and Alkeres  Alkanes and Alkeres  Alkanes and Alkeres  Hopanes, Cholestanes, Steeds  Alkanes and Alkeres  Alkanes and Alkeres  Any others? Added at what point analyses:  Plants  Any others? Added at what point analyses:  I opens. Cholestanes, Steeds  Singars  Singars  Experimental corrected for percent recovery?  Alkanes and Alkeres  If the ISSurrogates added after extraction cleaning and just prior to elromatographic analysis from the extraction cleaning exact of quantitation; and Alkanes  Alkanes and Alkeres  Hopanes, Cholestanes, Steeds  Alkanes and Alkeres  Figures  Alkanes and Alkeres  Alkanes and Alkeres  Figures  Alkanes and Alkeres  Figures  Alkanes and Alkeres  Figures  Cathoryle and Acids  Figures  Cathoryles and Acids  Figures  Figures  Alkanes and Alkeres  Figures  Cathoryles and Acids  Figures  Cathoryles and Acids  Figures  Figures  Figures  Figures  Cathoryles and Acids  Figures  Cathoryles and Acids  Figures  Figures  Figures  Figures  Cathoryles and Acids  Figures  Cathoryles and Acids  Figures  F | Nitro-PAHs  Nitro-PAHs  Alkanes and Alkenes  Hopanes, Cholestanes, Sterols  Carbonyls and Acids  Phenols  Sugara                        |                                                          |                                |
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| Carbonyls and Acids Sugars  Sugars  Nitro-PAHs  Alkanes and Alkenes  Added at what point in analyses:  Nitro-PAHs  Nitro-PAHs  Alkanes and Alkenes  Added at what point in analyses:  Nitro-PAHs  Nitro-PAHs  Alkanes and Alkenes  Carbonyls and Acids  Carbonyls and Acids  Sugars  Sugars  Frecovery range:  I hose added prior to extraction  those added after extraction/cleanup and just prior to chromatographi  and Acids  Sugars  Frecovery range:  Hopenes, Cholestanes, Sterols  Carbonyls and Alkenes  Hopanes, Cholestanes, Sterols  Carbonyls and Alkenes  Hopanes, Cholestanes, Sterols  Carbonyls and Acids  PAHI  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Alkanes and Alkenes  Phonits  Carbonyls and Acids  Sugars  Alkanes and Alkenes  Hopanes, Cholestanes, Sterols  Carbonyls and Acids  Phenols  Sugars  Alkanes and Alkenes  Bring  Carbonyls and Acids  Phonits  Conc. Range  Sugars  Sugars  Sugars  Sugars  Phenols  Phenols  Phenols  Phenols  Sugars  Sugars  Phenols   Carbonyls and Acids Phenols Sugars Sugars                                                                                               |                                                          |                                |
| Phenols  Sugars  Sugars  Alkanes and Alkenes  Innes, Cholestanes, Sterols  Added at what point in analyses:  PAths  Nitro-PAHS  Nitro-PAHS  Nitro-PAHS  Nitro-PAHS  Added at what point in analyses:  PAths  PAths  Nitro-PAHS  Alkanes and Acids  Carbonyls and Acids  Sugars  Carbonyls and Acids  Innes added after extraction/cleanup and just prior to chromatographi urrogates added after extraction/cleanup extraction  Innes added after extraction/cleanup extraction  Innes added after extraction/cleanup extraction  Sugars  FAHI  Innes added after extraction/cleanup extraction  PAHS  Itecovery range:  PAHI  Nitro PAH  Alkanes and Alkenes  Hopanes, Cholestanes, Sterols  Carbonyls and Acids  Phenols  Sugars  Carbonyls and Acids  Phenols  Phenols  Phenols  Sugars  Carbonyls and Acids  Phenols  P | Phenols Sugars Sugars                                                                                                                   |                                                          |                                |
| Sugars  Nitro-PAHS  Alkanes and Alkenes  ness, Cholestanes, Sterols  Carbonyls and Acids  Nitro-PAHS  Alkanes and Alkenes  Sugars  Sugars  Sugars  Sugars  Inbest added after extraction/cleanup and just prior to chromatographi  Trecovery range:  PAHI  Nitro-PAHS  Sugars  Sugars  Hopanes, Cholestanes, Sterols  Carbonyls and Acids  Sugars  PAHS  Alkanes and Alkenes  Hopanes, Cholestanes, Sterols  Carbonyls and Acids  PAHS  Alkanes and Alkenes  PAHI  Nitro-PAHS  Sugars  Alkanes and Alkenes  Phenols  Sugars  Alkanes and Alkenes  Phenols  Sugars  Alkanes and Alkenes  Phenols  Sugars  Phenols  Sugars  Phenols  Sugars  Phenols  Sugars  Carbonyls and Acids  Phenols  Sugars  Carbonyls and Acids  Phenols  Sugars  Carbonyls and Acids  Phenols  Carbonyls and Acids  Phenols  Pheno | Sugars                                                                                                                                  |                                                          |                                |
| extraction/cleanup and JUST PRIOR to chromatographic analysis:  PAHIS  Alkanes and Alkenes  Carbonyls and Acids  Phenols  Sugars  Carbonyls and Acids  Phenols  Nitro-PAHS  Alkanes and Alkenes  Phenols  Sugars  Carbonyls and Acids  Phenols  Sugars  Carbonyls and Acids  Phenols  Sugars  Carbonyls and Acids  Points  Points  Points  Carbonyls and Acids  Points  Points  Carbonyls and Acids  Points  Carbonyls and Acids  Points  Carbonyls and Acids  Points  Carbonyls and Acids  Phenols  Sugars  Sugars  Carbonyls and Acids  Phenols  Sugars  Sugars  Sugars  Sugars  Sugars  Superols  Phenols   A dOI OT TILL A DE AUTOSONO (SECTION OF LAKE A                                                                                          |                                                          |                                |
| Alkanes and Alkenes  Action of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a part of a par | Added affer extraction/creaming and Just a mich in                                                                                      | to chromatographic analysis:                             |                                |
| Alkanes and Alkenes  To declarate, Sterols  Carbonyls and Acids  Phenols  Sugars  Added at what point in analyses:  Phenols  Phenols  Phenols  Sugars  Carbonyls and Acids  Those added prior to extraction  those added after extraction/cleanup and just prior to chromatographi  Trecovery range:  PAH  Nitro-PAH  Nitro-PAH  Alkanes and Alkenes  Phonols  Pho | PAHS                                                                                                                                    |                                                          |                                |
| Alkanes and Alkenes  Carbonyls and Acids  Phenols  Sugars  Nitro-PAHs  Nitro-PAHs  Nitro-PAHs  Alkanes and Alkenes  I those added prior to extraction  those added prior to extraction  those added after extraction/cleanup and just prior to chromatographi  trecovery range:  PAHs  Nitro-PAHs  Nitro-PAHs  Nitro-PAHs  Nitro-PAHs  Alkanes and Alkenes  Hopanes, Cholestanes, Sterols  Carbonyls and Acids  Points  Points  Carbonyls and Acids  Points  Carbonyls and Acids  Points  Carbonyls and Acids  Phenols  Sugars  Alkanes and Alkenes  Hopanes, Cholestanes, Sterols  Sugars  Sugars  Alkanes and Alkenes  Phenols  Sugars  Sugars  Alkanes and Alkenes  Phenols  Phenols  Phenols  Sugars  Alkanes and Alkenes  Phenols  Phenols  Phenols  Alkanes and Alkenes  Phenols  Phenols  Phenols  Alkanes and Alkenes  Phenols  Phenols  Phenols  Alkanes and Alkenes  Phenols  Alkanes and Alkenes  Alkanes and Alkenes  Phenols  Sugars  Alkanes and Alkenes                                                                                                                            | Nitro-PAHs                                                                                                                              |                                                          |                                |
| Added at what point in analyses:  Added at what point in analyses:  Nitro-PAHs  Alkanes and Arkenes  Sugars  Sugars  Sugars  Sugars  Sugars  Sugars  Thenols  Sugars  Sugars  Indards used for quantitation calculations were:  Those added prior to extraction  Those added after extraction/cleanup and just prior to chromatographi  trecovery range:  PAHI  Nitro-PAHIs  Nitro-PAHIs  Alkanes and Alkenes  PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAH | Alkanes and Alkenes                                                                                                                     |                                                          |                                |
| Carbonyls and Acids Phenols Sugars Alkanes and Alkenes nnes, Cholestanes, Sterols Carbonyls and Acids Phenols Sugars Intose added prior to extraction those added prior to extraction those added prior to extraction those added after extraction/cleanup and just prior to chromatograph urrogates addled after extraction/cleanup extraction were used for quantitation, saults corrected for percent recovery?  PAHS  PAHS  PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PAHI Nitro PA | Hopanes, Cholestanes, Sterols                                                                                                           |                                                          |                                |
| Phenols Sugars  Sugars  PAHS  Alkanes and Alkenes  Inderded at what point in analyses:  PAHS  Alkanes and Alkenes  Sugars  Sugars  Phenols  Sugars  Alkanes and Alkenes  Hopanes, Cholestanes, Sterols  PAHS  Alkanes and Alkenes  PAH  Nitro PAH  Nitro PAH  Nitro PAH  Alkanes and Alkenes  Proints  Conc. Range  Boints  Conc. Range  Carbonyls and Acids  Pakinols  Sugars  Carbonyls and Acids  Pakinols  Pakinol | Carbonyls and Acids                                                                                                                     |                                                          |                                |
| Sugars  PAHs  Nitro-PAHs  Alkanes and Alkenes  Sugars  Alkanes and Alkenes  Theologists and Acids  Sugars  Sugars  Those added prior to extraction  Inthose added prior to extraction and just prior to chromatograph  Those added after extraction/cleanup and just prior to chromatograph  Trecovery range:  Nitro-PAHs  Alkanes and Alkenes  PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Alkanes and Alkenes  Path  Path  Sugars  Carbonyls and Acids  Carbonyls and Acids  Sugars  Carbonyls and Acids  Sugars  Carbonyls and Acids  Carbonyls and Acids  Sugars  Carbonyls and Acids  | Phenols                                                                                                                                 |                                                          |                                |
| Added at what point in analyses:  Nitro-PAHs  Alkanes and Alkenes anes, Cholestanes, Sterols  Carbonyls and Acids  Sugars  Inose added prior to extraction  Inose added after extraction/cleanup and just prior to chromatograph  Inose added after extraction/cleanup extraction were used for quantitation,  sults corrected for percent recovery?  Intro-PAHs  Nitro-PAHs  Alkanes and Alkenes  PAH  Nitro-PAH  Nitro-PAH  Nitro-PAH  Nitro-PAH  Nitro-PAH  Nitro-PAH  Alkanes and Alkenes  Pant  Roints  Carbonyls and Acids  Sugars  Carbonyls and Acids  Pant  Alkanes and Alkenes  Alkanes and Alkenes  Pant  Alkanes and Alkenes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Sugars                                                                                                                                  |                                                          |                                |
| Alkanes and Alkenes  Carbonyls and Acids  Plenols  Sugars  Incovery range:  PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PAHI  Nitro PA | Any others? Added at what point in analyses:                                                                                            |                                                          |                                |
| Alkanes and Alkenes  Carbonyls and Acids  Phenols Sugars  Sugars  Indards used for quantitation calculations were:  Those added after extraction/cleanup and just prior to chromatographi  Unrogates added after extraction/cleanup extraction were used for quantitation,  trecovery range:  Alkanes and Alkenes  PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro P | PAHs                                                                                                                                    |                                                          |                                |
| Alkanes and Alkenes Carbonyls and Acids Phenols Sugars Index added prior to extraction those added prior to extraction those added after extraction/cleanup and just prior to chromatograph urrogates added after extraction/cleanup extraction were used for quantitation, trecovery range:  Hopanes, Cholestanes, Sterols  PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PA | Nitro-PAHs                                                                                                                              |                                                          |                                |
| undards used for quantitation calculations were:  Sugars  Sugars  I those added after extraction/cleanup and just prior to chromatograph  urrogates added after extraction/cleanup extraction were used for quantitation,  sults corrected for percent recovery?  I trecovery range:  PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Phonts  Carbonyls and Acids  Carbonyls and Acids  Sugars  Carbonyls and Acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Albance and Albance                                                                                                                     |                                                          |                                |
| ruce, chockwards, sectors  Carbonyls and Acids  Sugars  Indoards used for quantitation calculations were:  those added after extraction/cleanup and just prior to chromatograph  those added after extraction/cleanup extraction were used for quantitation,  trecovery range:  Nitro-PAHs  Alkanes and Alkenes  PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Points  Carbonyls and Acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Hononge Chalactones Corole                                                                                                              |                                                          |                                |
| Phenols Sugars Sugars Sugars Sugars Sugars Indards used for quantitation calculations were: Those added after extraction/cleanup and just prior to chromatographi Intercovery range:  Alkanes and Alkenes Hopanes, Cholestanes, Sterols Sugars  PAH Nitro PAH Nitro PAH Nitro PAH Nitro PAH Nitro PAH Points Conc. Range Carbonyls and Acids Sugars Carbonyls and Acids Sugars Carbonyls and Acids Carbonyls and Acids Sugars Carbonyls and Acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | riopanes, Chorestanes, sterois                                                                                                          |                                                          |                                |
| Prietions Sugars Industriation calculations were: those added prior to extraction those added after extraction/cleanup and just prior to chromatographi urrogates added after extraction/cleanup extraction were used for quantitation, trecovery range:  Nitro-PAHs Alkanes and Alkenes Hopanes, Cholestanes, Sterols Sugars  PAH  Alkanes and Alkenes  PAH  Nitro PAH  Nitro PAH  Nitro PAH  Sugars  Carbonyls and Acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Carbonyls and Acids                                                                                                                     |                                                          |                                |
| Sugars Index back of quantitation calculations were:  those added prior to extraction those added after extraction/cleanup and just prior to chromatographi urrogates added after extraction/cleanup extraction were used for quantitation, those added after extraction/cleanup extraction were used for quantitation, sults corrected for percent recovery?  Alkanes and Alkenes  PAH  Nitro PAH  Nitro PAH  Nitro PAH  Alkanes and Alkenes  Points  Conc. Range  Carbonyls and Acids  Carbonyls and Acids  Sugars  Carbonyls and Acids  PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH  Nitro PAH   | Phenois                                                                                                                                 |                                                          |                                |
| undards used for quantitation calculations were:  those added prior to extraction those added after extraction/cleanup and just prior to chromatographi urrogates added after extraction/cleanup extraction were used for quantitation, sults corrected for percent recovery?  Ritro-PAHs Alkanes and Alkenes PAH  Nitro PAH Nitro PAH  Nitro PAH  Alkanes and Alkenes  From:  Points  Conc. Range  Carbonyls and Acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Sugars                                                                                                                                  |                                                          |                                |
| those added after extraction/cleanup and just prior to chromatographi urrogates added after extraction/cleanup extraction/cleanup and just prior to chromatographi saults corrected for percent recovery?  FAHS  Alkanes and Alkenes  Points  Points  Points  Conc. Range  Phenols  Carbonyls and Acids  Romes, Cholestanes, Sterols  Carbonyls and Acids  Path  Alkanes and Alkenes  Boints  Conc. Range  Carbonyls and Acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | IS/surrogate standards used for quantitation calculation                                                                                | ons were:                                                |                                |
| urrogates added after extraction/cleanup and just prior to chromatographi urrogates added after extraction/cleanup extraction were used for quantitation, saults corrected for percent recovery?  I recovery range:  Nitro-PAHs  Alkanes and Alkenes  PAH  Nitro PAH  Nitro PAH  Nitro PAH  Alkanes and Alkenes  Theologians, Sterols  Carbonyls and Acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | those added p                                                                                                                           | prior to extraction                                      |                                |
| urrogates added after extraction/cleanup extraction were used for quantitation, sults corrected for percent recovery?  I recovery range:  Nitro-PAHs  Alkanes and Alkenes  PAH  Nitro PAH  Nitro PAH  Nitro PAH  Alkanes and Alkenes  Thenols  Carbonyls and Acids  Boints  Carbonyls and Acids  Carbonyls and Acids  Sugars  Carbonyls and Acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | those added a                                                                                                                           | fafter extraction/eleanup and just prior to chromatograp | hic analysis                   |
| t recovery range:  Nitro-PAHs  Alkanes and Alkenes  Hopanes, Cholestanes, Sterols  Carbonyls and Acids  PAH  Nitro PAH  Nitro PAH  Alkanes and Alkenes  mes, Cholestanes, Sterols  Carbonyls and Acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | If the IS/surrogates added after extraction/cleanup                                                                                     | up extraction were used for quantitation,                |                                |
| Alkanes and Alkenes  PAHS  Alkanes and Alkenes  Hopanes, Cholestanes, Sterols  Carbonyls and Acids  PAH  Nitro PAH  Alkanes and Alkenes  The Alkanes and Alkenes  Carbonyls and Acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | were results corrected for percent recovery?                                                                                            | DATE                                                     | T                              |
| Alkanes and Alkenes  Hopanes, Cholestanes, Sterols Carbonyls and Acids PAH Nitro PAH Nitro PAH Alkanes and Alkenes Carbonyls and Acids Carbonyls and Acids Sugars Carbonyls and Acids Carbonyls and Acids Carbonyls and Acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Percent recovery range:                                                                                                                 | PAHS                                                     |                                |
| Alkanes and Alkenes Hopanes, Cholestanes, Sterols Carbonyls and Acids PAH Nitro PAH Alkanes and Alkenes Carbonyls and Acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                         | Nitro-PAHs                                               |                                |
| Hopanes, Cholestanes, Sterols Carbonyls and Acids Sugars  Nitro PAH Alkanes and Alkenes Carbonyls and Acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                         | Alkanes and Alkenes                                      | 1                              |
| Carbonyls and Acids Phenols Sugars  Nitro PAH Alkanes and Alkenes nnes, Cholestanes, Sterols Carbonyls and Acids Carbonyls and Acids Sugars Carbonyls Sugars Carbonyls Sugars Carbonyls Sugars                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                         | Hopanes, Cholestanes, Sterols                            |                                |
| Phenols Sugars  PAH Nitro PAH Alkanes and Alkenes The Carbonyls and Acids Carbonyls and Acids Sugars  Carbonyls and Acids Sugars  Carbonyls Strols Sugars                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                         | Carbonyls and Acids                                      |                                |
| PAH Nitro PAH Alkancs and Alkenes Carbonyls and Acids Carbonyls and Acids Sugars Carbonyls and Acids Sugars Carbonyls and Acids Sugars                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                         | Phenols                                                  | 1                              |
| PAH Nitro PAH Alkanes and Alkenes Serols Carbonyls and Acids Carbonyls and Acids Suranes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                         | Change                                                   | 1                              |
| PAH  Nitro PAH  Alkancs and Alkenes nnes, Cholestanes, Sterols  Carbonyls and Acids  Superols  Carbonyls and Acids  Superols                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                         | ougais                                                   |                                |
| Points Conc. Range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Calibration Curve                                                                                                                       |                                                          | A                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | duiod                                                                                                                                   |                                                          | Analytes outside of canoration |
| Nitro PAH Alkanes and Alkenes Hopanes, Cholestanes, Sterols Carbonyls and Acids Chances                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                         |                                                          | curve canoranon range          |
| Alkanes and Alkenes Hopanes, Cholestanes, Sterols Carbonyls and Acids Phenols                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Nice BAH                                                                                                                                |                                                          |                                |
| Akanes and Akenes Hopanes, Cholestanes, Sterols Carbonyls and Acids Carbonyls and Acids Carbonyls and Acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | MITO LAH                                                                                                                                |                                                          |                                |
| Hopanes, Cholestanes, Sterols Carbonyls and Acids Phenols                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Alkanes and Alkenes                                                                                                                     |                                                          |                                |
| Carbonyls and Acids Phenols                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Hopanes, Cholestanes, Sterols                                                                                                           |                                                          |                                |
| Phenols                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Carbonyls and Acids                                                                                                                     |                                                          |                                |
| Cuant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Phenols                                                                                                                                 |                                                          |                                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sugars                                                                                                                                  |                                                          |                                |

Sugars

PIcase note any differences in procedures used for SRM 1649a analyses from those for the Interim RM described above:

| RESULTS:                                              |                        |                        |                        |                       |                       |                       |
|-------------------------------------------------------|------------------------|------------------------|------------------------|-----------------------|-----------------------|-----------------------|
| PAH ANALYSES                                          | Interim RM             | Interim RM             | Interim RM             | SRM 1649a             | SRM 1649a             | SRM 1649a             |
|                                                       | Sample 1               | Sample 2               | Sample 3               | Sample 1              | Sample 2              | Sample 3              |
| Analyst (Initials)<br>Date(s) of measurements (m/d/v) |                        |                        |                        |                       |                       |                       |
| Sample Jar number                                     |                        |                        |                        |                       |                       |                       |
|                                                       |                        |                        |                        |                       |                       |                       |
|                                                       | Interim KM<br>Sample 1 | Internm КМ<br>Sample 2 | Interim RM<br>Sample 3 | SRM 1649a<br>Sample 1 | SRM 1649a<br>Sample 2 | SRM 1649a<br>Sample 3 |
|                                                       | (ng/g as received)     | (ng/g as received)     | (ng/g as received)     | (ng/g as received)    | (ng/g as received)    | (ng/g as received)    |
| naphthalene                                           |                        | )                      | )                      |                       |                       | 000                   |
| fluorene                                              |                        |                        |                        |                       |                       |                       |
| phenanthrene                                          |                        |                        |                        |                       |                       |                       |
| anthracene                                            |                        |                        |                        |                       |                       |                       |
| 1-methylphenanthrene                                  |                        |                        |                        |                       |                       |                       |
| 2-methylphenanthrene                                  |                        |                        |                        |                       |                       |                       |
| 3-methylphenanthrene                                  |                        |                        |                        |                       |                       |                       |
| 9-methylphenanthrene                                  |                        |                        |                        |                       |                       |                       |
| retene                                                |                        |                        |                        |                       |                       |                       |
| 4H-cyclopenta(def)phenanthrene                        |                        |                        |                        |                       |                       |                       |
| fluoranthene                                          |                        |                        |                        |                       |                       |                       |
| Dyrene                                                |                        |                        |                        |                       |                       |                       |
| benzo[ghi]fluoranthene                                |                        |                        |                        |                       |                       |                       |
| cyclopental cd lpyrene                                |                        |                        |                        |                       |                       |                       |
| benzía lanthracene                                    |                        |                        |                        |                       |                       |                       |
| chrysene                                              |                        |                        |                        |                       |                       |                       |
| trinhenvlene                                          |                        |                        |                        |                       |                       |                       |
| benzol <i>b</i> Ifluoranthene                         |                        |                        |                        |                       |                       |                       |
| benzo[; ]fluoranthene                                 |                        |                        |                        |                       |                       |                       |
| benzofk Ifluoranthene                                 |                        |                        |                        |                       |                       |                       |
| henzolo Invrepe                                       |                        |                        |                        |                       |                       |                       |
| benzola livrene                                       |                        |                        |                        |                       |                       |                       |
| ociizo[a Jpyrene<br>nendene                           |                        |                        |                        |                       |                       |                       |
| indeno[1,2,0,d]nyrene                                 |                        |                        |                        |                       |                       |                       |
| henzolahi hemilana                                    |                        |                        |                        |                       |                       |                       |
| ociizotgai jpei yietie<br>dihenafa h lanthracene      |                        |                        |                        |                       |                       |                       |
| dihenzla allanthesene                                 |                        |                        |                        |                       |                       |                       |
| diociiz[a,c jaiiiiiacciic<br>henzo[h lohmenn          |                        |                        |                        |                       |                       |                       |
| coronene                                              |                        |                        |                        |                       |                       |                       |
| dibenzo[a,e]byrene                                    |                        |                        | -                      |                       |                       |                       |
|                                                       |                        |                        |                        |                       |                       |                       |

| Interim RM Interim RM SRM 1649a SRM 1649a SRM 1649a | Sample 2 Sample 3 Sample 2 Sample 3                                        | Interim RM Interim RM SRM 1649a SRM 1649a SRM 1649a Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 4 Sample 4 Sample 5 Sample 5 Sample 3 Sample 6 Sample 6 Sample 6 Sample 8 Sample 8 Sample 8 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sample 9 Sampl | Interim RM Interim RM SRM 1649a SRM 1649a SRM 1649a | Sample 2 Sample 3 Sample 2 Sample 3                                     | Interim RM Interim RM SRM 1649a SRM 1649a SRM 1649a Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sampl |       |       |                |       |       |                |       |       |                |                          | Interim RM Interim RM SRM 1649a SRM 1649a SRM 1649a | Sample 2 Sample 1 Sample 2 Sample 3                                  |
|-----------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|----------------|-------|-------|----------------|-------|-------|----------------|--------------------------|-----------------------------------------------------|----------------------------------------------------------------------|
| Interim RM                                          | Sample 1                                                                   | Interim RM Sample 1 (ng/g as received)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Interim RM                                          | Sample 1                                                                | Interim RM<br>Sample 1<br>(ng/g as received)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       |       |                |       |       |                |       |       |                |                          | Interim RM                                          | Sample 1                                                             |
| Nitro-PAH ANALYSES                                  | Analyst (Initials)<br>Date(s) of measurements (m/d/y)<br>Sample Jar number | 9-nitroanthracene<br>1-nitropyrene<br>2-nitrofluoranthene<br>3-nitrofluoranthene<br>7-nitrobenz[a]anthracene<br>6-nitrochrysene<br>6-nitrobenzo[a]pyrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Alkanes and Alkenes                                 | Analyst (Initials) Date(s) of measurements (nv/d/y) . Sample Jar number | п-С20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | n-C22 | n-C24 | n-C25<br>n-C26 | n-C27 | n-C28 | n-C29<br>n-C30 | n-C31 | n-C32 | n-C40<br>n-C44 | squalene<br>I-octadecene | Hopanes, Cholestanes, Sterols                       | Analyst (Initials) Date(s) of measurements (m/d/y) Sample Jar number |

| Interim RM Sample 1.  (ne/g as received) (ns | Carbonyls and Acids Interim RM | Analyst (Initials)  Date(s) of measurements (m/d/y)  Sample Jar number | <b>(</b> p:                            | Interim RM<br>Sample 1 |
|----------------------------------------------|--------------------------------|------------------------------------------------------------------------|----------------------------------------|------------------------|
| Interim RM<br>Sample 2<br>(ng/g as received) | Interim RM                     | Sample 2                                                               | <b>(</b> p <sub>3</sub>                | Interim RM<br>Sample 2 |
| Interim RM Sample 3 (ng/g as reccived)       | Interim RM                     | Sample 3                                                               | Interim RM Sample 3 (ng/g as received) | Interim RM<br>Sample 3 |
| SRM 1649a<br>Sample 1<br>(ng/g as received)  | SRM 1649a                      | Sample 1                                                               | SRM 1649a Sample 1 (ng/g as received)  | SRM 1649a<br>Sample 1  |
| SRM 1649a<br>Sample 2<br>(ng/g as received)  | SRM 1649a                      | Sample 2                                                               | SRM 1649a Sample 2 (ng/g as received)  | SRM 1649a<br>Sample 2  |
| SRM 1649a<br>Sample 3<br>(ng/g as received)  | SRM 1649a                      | Sample 3                                                               | SRM 1649a Sample 3 (ng/g as received)  | SRM 1649a<br>Sample 3  |

| Sample 1   Sample 2   Sample 3   Sample 1   Sample 3   Sample 1   Sample 2   Sample 1   Sample 2   Sample 1   Sample 2   Sample 1   Sample 3   Sample 1   Sample 1   Sample 3   Sample 1   Sample 4   Sample 5   Sample 6   Sample 6   Sample 6   Sample 6   Sample 7   Sample 1   Sample 2   Sample 2   Sample 3   Sample 1   Sample 3   Sample 1   Sample 3   Sample 1   Sample 6   Sample 6   Sample 6   Sample 7   Sample 7   Sample 7   Sample 8   Sample 9   Sample 9   Sample 9   Sample 1   Sample 9   Analyst (Initials) Date(s) of measurements (m/d/y) Sample Jar number syringol 4-ethylsyringol | Interim RM Sample 1 (ng/g as received)                      | Interim RM Sample 2 (ng/g as received)                      | Interim RM Sample 3 (ng/g as received)            | SRM 1649a<br>Sample 1<br>(ng/g as received)      | SRM 1649a<br>Sample 2<br>(ng/g as received)      | SRM 1649a<br>Sample 3<br>(ng/g as received)     | |
|---|---|---|---|---|---|---|---|
| Sample 1   Sample 2   Sample 3   Sample 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | genel onylsyringol /Isyringol col hylguaiacol /Iguaiacol                                      | Interim RM                                                  | Interim RM                                                  | Interim RM                                        | SRM 1649a                                        | SRM 1649a                                        | SRM 1649a                                       |
| ved) (ng/g as received) (ng/g as received) (ng/g as received) (ng/g as received)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | yst (Initials)<br>(s) of measurements (m/d/y)<br>ole Jar number                               | Sample 1  Interim RM Sample 1  Sample 1  (ng/g as received) | Sample 2  Interim RM Sample 2  Sample 2  (ng/g as received) | Sample 3  Interim RM Sample 3  (ng/g as received) | Sample 1  SRM 1649a Sample 1  (ng/g as received) | Sample 2  SRM 1649a Sample 2  (ng/g as received) | Sample 3  SRM 1649a Sample 3 (ng/g as received) |

Any additional data/infomration should be added here.

| NARSTO                     | 3. CAS numbers at       |                                                              |                                                         |
|----------------------------|-------------------------|--------------------------------------------------------------|---------------------------------------------------------|
| Archive CAS                | CAS RN                  | name 9ci                                                     | IUPAC_Name (or other)                                   |
| C91-20-3                   | 91-20-3                 | Naphthalene                                                  | Naphthalene                                             |
| 286-73-7                   | 86-73-7                 | 9H-Fluorene                                                  | Fluorene                                                |
| C85-01-8                   | 85-01-8                 | Phenanthrene                                                 | Phenanthrene                                            |
| C120-12-7                  | 120-12-7                | Anthracene                                                   | Anthracene                                              |
| C832-69-9                  | 832-69-9                | Phenanthrene, 1-methyl-                                      | 1-Methylphenanthrene                                    |
| 2531-84-2                  | 2531-84-2               | Phenanthrene, 2-methyl-                                      | 2-Methylphenanthrene                                    |
| C832-71-3                  | 832-71-3                | Phenanthrene, 3-methyl-                                      | 3-Methylphenanthrene                                    |
| C883-20-5                  | 883-20-5                | Phenanthrene, 9-methyl-                                      | 9-Methylphenanthrene                                    |
| C483-65-8                  | 483-65-8                | Phenanthrene, 1-methyl-7-(1-methylethyl)-                    | Retene                                                  |
| 2203-64-5                  | 203-64-5                | 4H-Cyclopenta[def]phenanthrene                               | 4H-Cyclopenta[def]phenanthrene                          |
| 206-44-0                   | 206-44-0                | Fluoranthene                                                 | Fluoranthene                                            |
| C129-00-0                  | 129-00-0                | Pyrene                                                       | Pyrene                                                  |
| C203-12-3                  | 203-12-3                | 1 910110                                                     | Benzo[ghi]fluoranthene                                  |
| 227208-37-3                | 27208-37-3              | Cyclopenta[cd]pyrene                                         | Cyclopenta[cd]pyrene                                    |
| C56-55-3                   | 56-55-3                 | Benz[a] anthracene                                           | Benz[a]anthracene                                       |
| C218-01-9                  | 218-01-9                | Chrysene                                                     | Chrysene                                                |
| 217-59-4                   | 217-59-4                | Triphenylene                                                 | Triphenylene                                            |
| 2205-99-2                  | 205-99-2                | Benz[e] acephenanthrylene                                    | Benzo[b] fluoranthene                                   |
| C205-82-3                  | 205-82-3                | Benzo[/]fluoranthene                                         | Benzo[j] [fluoranthene                                  |
| C207-08-9                  | 207-08-9                | Benzo[k] fluoranthene                                        | Benzo[k]fluoranthene                                    |
| C192-97-2                  | 192-97-2                | Benzo[e] pyrene                                              | Benzo[e]pyrene                                          |
| C50-32-8                   | 50-32-8                 | Benzo[a] pyrene                                              | Benzo[a] pyrene                                         |
| C198-55-0                  | 198-55-0                | Perylene                                                     | Perylene                                                |
| C193-39-5                  | 193-39-5                | Indeno[1,2,3-cd]pyrene                                       | Indeno[1,2,3-cd]pyrene                                  |
| C191-24-2                  | 191-24-2                | Benzo[ghi]perylene                                           | Benzo[ghi] perylene                                     |
| C53-70-3                   | 53-70-3                 | Dibenz[a,h]anthracene                                        | Dibenz[a,h]anthracene                                   |
| C215-58-7                  | 215-58-7                | Benzo[b] triphenylene                                        | Dibenz[a,c] anthracene                                  |
| C214-17-5                  | 213-38-7                | Benzo[ <i>b</i> ]implientylene                               | Benzo[b] chrysene                                       |
| C191-07-1                  | 191-07-1                | Coronene                                                     | Coronene                                                |
| C191-07-1                  | -                       |                                                              |                                                         |
| C602-60-8                  | 192-65-4                | Naphtho[1,2,3,4-def]chrysene                                 | Dibenzo[ <i>a</i> , <i>e</i> ] pyrene 9-Nitroanthracene |
|                            |                         | Anthracene, 9-nitro-                                         |                                                         |
| C5522-43-0<br>C13177-29-2  | 5522-43-0               | Pyrene, 1-nitro-                                             | 1-Nitropyrene 2-Nitrofluoranthene                       |
|                            | 13177-29-2              | Fluoranthene, 2-nitro-                                       | 3-Nitrofluoranthene                                     |
| C892-21-7<br>C20268-51-3   | 892-21-7<br>20268-51-3  | Benz[a] anthracene, 7-nitro-                                 | 7-Nitrobenz[a]anthracene                                |
|                            |                         | Chrysene, 6-nitro-                                           |                                                         |
| C 7496-02-8<br>C63041-90-7 | 7496-02-8<br>63041-90-7 | Benzo[a] pyrene, 6-nitro-                                    | 6-Nitrochrysene<br>6-Nitrobenz[ <i>a</i> ]pyrene        |
| C389130-29-4               |                         |                                                              |                                                         |
|                            | 389130-29-4             | Eicosane, branched and linear  Docosane, branched and linear | n -C20<br>n -C22                                        |
| C389130-30-7               | 389130-30-7             |                                                              |                                                         |
| C389130-35-2               | 389130-35-2             | Tetracosane, branched and linear                             | n-C24                                                   |
| C389130-44-4               | 389130-44-4             | Hexacosane, branched and linear                              | n-C26                                                   |
| C389130-54-5               | 389130-54-5             | Octacosane, branched and linear                              | n -C28                                                  |
| C389130-55-6               | 389130-55-6             | Triacontane, branched and linear                             | n-C30                                                   |
| C389130-57-8               | 389130-57-8             | Dotriacontane, branched and linear                           | n-C32                                                   |
| C389130-58-9               | 389130-58-9             | Tetratriacontane, branched and linear                        | n-C36                                                   |
| C389130-60-3               | 389130-60-3             | Tetracontane, branched and linear                            | n-C40                                                   |
| C389130-63-6               | 389130-63-6             | Tetratetracontane, branched and linear                       | n -C44                                                  |
| 2111 02 4                  | 111.02.4                | 2,6,10,14,18,22-Tetracosahexaene,                            | G 1                                                     |
| C111-02-4                  | 111-02-4                | 2,6,10,15,19,23-hexamethyl-, (all-E)-                        | Squalene                                                |
| C12-88-9                   | 112-88-9                | 1-Octadecene                                                 | 1-Octadecene                                            |
| C55199-72-9                | 55199-72-9              | 20,29,30-Trinorlupane, (17.alpha.)-                          | 22, 29, 30-Trisnorhopane                                |
| C53584-60-4                | 53584-60-4              | A'-Neo-30-norgammacerane, (17.alpha.)-                       | 17a(H), 21b(H)-29-Norhopane                             |
| C13849-96-2                | 13849-96-2              | A'-Neogammacerane, (17.alpha.)-                              | 17a(H), 21b(H)-29-Hopane                                |
| C69483-47-2                | 69483-47-2              | Cholestane, (5.alpha.,14.beta.,17.alpha.)-                   | 20R,5a(H),14b(H),17b(H)-Cholestan                       |
| C69483-46-1                | 69483-46-1              | Cholestane, (5.alpha.,14.beta.,17.alpha.,20S)-               | 20S,5a(H),14b(H),17b(H)-Cholestan                       |
| C40071-70-3                | 40071-70-3              | Cholestane, (5.alpha., 14.beta.)-                            | 20R,5a(H),14b(H),17a(H)-Cholestan                       |
| C99664-76-3                | 99664-76-3              | Ergostane, (5.alpha.,14.beta.,17.alpha.)-                    | 20R,5a(H),14b(H),17b(H)-Ergostane                       |
| C99664-77-4                | 99664-77-4              | IN Ergostane, (5.alpha.,14.beta.,17.alpha.,20S)-             | 20S,5a(H),14b(H),17b(H)-Ergostane                       |

| NARSTO       |             |                                                    |                                          |
|--------------|-------------|----------------------------------------------------|------------------------------------------|
| Archive CAS  | CAS RN      | name 9ci                                           | IUPAC Name (or other)                    |
| C99664-78-5  | 99664-78-5  | Stigmastane, (5.alpha., 14.beta., 17.alpha.)-      | 24R,5a(H),14b(H),17b(H)-Sitostane        |
| C387868-91-9 | 387868-91-9 | Stigmastane, (5.alpha.,14.beta.,24S)-              | 24S,5a(H),14b(H),17b(H)-Sitostane        |
|              |             | A'-Neo-30-norgammacerane, 22-propyl-,              | 2 10,54(11),1 10(11),1 70(11) 5110514110 |
| C67069-25-4  | 67069-25-4  | (17.alpha.,22R)-                                   | 22R-17a(H), 21b(H)-30-Bishomohopan       |
|              | 0,005 20    | A'-Neo-30-norgammacerane, 22-ethyl-,               | 221(-174(11), 21b(11)-30-Dishonohopan    |
| C60305-22-8  | 60305-22-8  | (17.alpha.,22R)-                                   | 22R-17a(H), 21b(H)-30-Homohopane         |
|              | 00303-22-0  | A'-Neo-30-norgammacerane, 22-propyl-,              | 22R-17a(11), 21b(11)-30-11omonopane      |
| C67069-15-2  | 67069-15-2  | (17.alpha.,22S)-                                   | 235 17a(II) 21b(II) 20 Dishamahaan       |
| C07009-13-2  | 07009-13-2  | A'-Neo-30-norgammacerane, 22-ethyl-,               | 22S-17a(H), 21b(H)-30-Bishomohopan       |
| C60305-23-9  | 60305-23-9  |                                                    | 226 17-(1) 211(1) 20 11 1                |
| C00303-23-9  | 00303-23-9  | (17.alpha.,22S)-                                   | 22S-17a(H), 21b(H)-30-Homohopane         |
| C00664 76 2  | 00664.76.3  | Francisco (5 -1-1- 14 h-4- 17 1-1- )               | ADD 20D 020 M 1 1 1 1                    |
| C99664-76-3  | 99664-76-3  | Ergostane, (5.alpha.,14.beta.,17.alpha.)-          | ABB-20R-C28-Methylcholestane             |
| C1921-70-6   | 1921-70-6   | Pentadecane, 2,6,10,14-tetramethyl-                | Pristane                                 |
| C638-36-8    | 638-36-8    | Hexadecane, 2,6,10,14-tetramethyl-                 | Phytane                                  |
| C57-88-5     | 57-88-5     | Cholest-5-en-3-ol (3.beta.)-                       | Cholesterol                              |
| C83-48-7     | 83-48-7     | Stigmasta-5,22-dien-3-ol, (3.beta.,22E)-           | Stigmasterol                             |
| C82-05-3     | 82-05-3     | 7H-Benz[de]anthracen-7-one                         | Benzanthrone                             |
| C486-25-9    | 486-25-9    | 9H-Fluoren-9-one                                   | 9-Fluorenone                             |
| C84-65-1     | 84-65-1     | 9,10-Anthracenedione                               | Anthroquinone                            |
| C2498-66-0   | 2498-66-0   | Benz[a]anthracene-7,12-dione                       | Benz[a]anthracene-7, 12-dione            |
| C104-61-0    | 104-61-0    | 2(3H)-Furanone, dihydro-5-pentyl-                  | G-Nonanoic lactone                       |
| C706-14-9    | 706-14-9    | 2(3H)-Furanone, 5-hexyldihydro-                    | G-Decanolactone                          |
| C642-31-9    | 642-31-9    | 9-Anthracenecarboxaldehyde                         | 9-Anthraldehyde                          |
| C134-96-3    | 134-96-3    | Benzaldehyde, 4-hydroxy-3,5-dimethoxy-             | Syringaldehyde                           |
|              |             | 1-Phenanthrenecarboxylic acid, 7-ethenyl-          | j sangaratny et                          |
|              |             | 1,2,3,4,4a,4b,5,6,7,9,10,10a-dodecahydro-1,4a,7-   |                                          |
| C127-27-5    | 127-27-5    | trimethyl-, (1R,4aR,4bS,7S,10aR)-                  | Pimaric acid                             |
| C127-27-3    | 127-27-5    | 1-Phenanthrenecarboxylic acid, 7-ethenyl-          | 1 Illianc acid                           |
|              |             | 1,2,3,4,4a,4b,5,6,7,8,10,10a-dodecahydro-1,4a,7-   |                                          |
| C5015 16 7   | 5025 26 7   | · ·                                                |                                          |
| C5835-26-7   | 5835-26-7   | trimethyl-, (1R,4aR,4bS,7S,10aR)-                  | Isopimaric acid                          |
| 0.55         |             | Cyclobutaneacetic acid, 3-carboxy-2,2-dimethyl-,   |                                          |
| C473-73-4    | 473-73-4    | (1R,3S)-rel-(+)-                                   | Pinic acid                               |
| C473-72-3    | 473-72-3    | Cyclobutaneacetic acid, 3-acetyl-2,2-dimethyl-     | Pinonic acid                             |
| C57-10-3     | 57-10-3     | Hexadecanoic acid                                  | Hexadecanoic acid                        |
| C473-69-8    | 473-69-8    | 1,3-Cyclobutanedicarboxylic acid, 2,2-dimethyl-    | Norpinic acid                            |
|              |             |                                                    |                                          |
| C473-68-7    | 473-68-7    | Cyclobutanecarboxylic acid, 3-acetyl-2,2-dimethyl- | Norpinonic acid                          |
| C24903-95-5  | 24903-95-5  | Bicyclo[3.1.1]heptan-2-one, 6,6-dimethyl-          | Nopinone                                 |
|              |             |                                                    |                                          |
| C2704-78-1   | 2704-78-1   | Cyclobutaneacetaldehyde, 3-acetyl-2,2-dimethyl-    | Pinonaldehyde                            |
|              |             | 3-Oxabicyclo[3.1.0]hexan-2-one, 4-hydroxy-6,6-     |                                          |
| C73611-02-6  | 73611-02-6  | dimethyl-, (1R,4R,5S)-                             | Caronaldehyde                            |
| C91-10-1     | 91-10-1     | Phenol, 2,6-dimethoxy-                             | Syringol                                 |
| C14059-92-8  | 14059-92-8  | Phenol, 4-ethyl-2,6-dimethoxy-                     | 4-Ethylsyringol                          |
| C97-54-1     | 97-54-1     | Phenol, 2-methoxy-4-(1-propenyl)-                  | Isoeugenol                               |
| 057-54-1     | 77-27-1     | 1 Heliot, 2-methoxy-4-(1-property)-                | 13004201101                              |
| C5650-43-1   | 5650-43-1   | 1-Propanone, 1-(4-hydroxy-3,5-dimethoxyphenyl)-    | Propionylsyringol                        |
| C60271 01 6  | 60271 01 6  | 1 Dutan and 1 (4 hardrane 2.5 Jimeshamaria D       | Dutanianing                              |
| C69271-91-6  | 69271-91-6  |                                                    | Butyrylsyringol                          |
| C90-05-1     | 90-05-1     | Phenol, 2-methoxy-                                 | Guaiacol                                 |
| C93-51-6     | 93-51-6     | Phenol, 2-methoxy-4-methyl-                        | 4-Methylguaiacol                         |
| C2785-89-9   | 2785-89-9   | Phenol, 4-ethyl-2-methoxy-                         | 4-Ethylguaiacol                          |
| C498-07-7    | 498-07-7    | betaD-Głucopyranose, 1,6-anhydro-                  | Levoglucosan                             |

# Appendix B

# **Laboratory Notes Accompanying Data**

|   |                                                    | Extract I | Extract 1 | Extract 1 | Part. 1            | Part. 1  | Part. 1            | SRM 1649a | SRM 1649a | SRM 1649a |                |  |
|---|----------------------------------------------------|-----------|-----------|-----------|--------------------|----------|--------------------|-----------|-----------|-----------|----------------|--|
|   | 1                                                  | Sample 1  | Sample 2  | Sample 3  | Sample 1           | Sample 2 | Sample 3           | Sample 1  | Sample 2  | Sample 3  |                |  |
|   |                                                    | (ng/g)    | (ng/g)    | (ng/g)    |                    |          | (ng/g as received) |           |           |           |                |  |
|   | 2-methylnaphthalene                                | 60.5      | 56.B      | 57.1      | 846                | 900      | 919                | 950       | 976       | 911       |                |  |
|   | 1-methylnaphthalene                                | 29.6      | 29.5      | 29.5      | 417                | 447      | 431                | 499       | 501       | 490       |                |  |
|   | biphenyl                                           | 18.1      | 18.3      | 18.2      | 467                | 456      | 399                | 552       | 567       | 564       | •              |  |
|   | acenaphthene                                       | 11.5      | 11        | 12.3      | 168                | 202      | 169                | 189       | 222       | 182       |                |  |
|   | 2,6-dimethylnaphthalene                            | 26.5      | 26        | 24.8      | 369                | 355      | 375                | 448       | 449       | 480       |                |  |
|   | acenaphthylene                                     | 9.51      | 9.84      | 10.7      | 138                | 134      | 130                | 155       | 152       | 145       |                |  |
|   | 2,3,5-trimethylnaphthalene                         | 10.4      | 9.46      | 10.7      | 131                | 134      | 117                | 183       | 177       | 158       |                |  |
|   | 23,3-trinethylnaphthalene                          | Extract 1 | Extract I | Extract 1 | Part. 1            | Part. 1  | Part. 1            | SRM 1649a | SRM 1649a | SRM 1649a |                |  |
|   | }                                                  |           |           |           |                    |          |                    |           |           |           |                |  |
|   |                                                    | Sample 1  | Sample 2  | Sample 3  | Sample I           | Sample 2 | Sample 3           | Sample 1  | Sample 2  | Sample 3  |                |  |
|   |                                                    | (ng/g)    | (ng/g)    | (ng/g)    |                    |          | (ng/g as received) |           |           |           |                |  |
| _ | acenapthene                                        | 7.40      | 7.26      | 7.05      | 64.6               | 61.5     | 66.8               | 118       | 103       | 87.6      |                |  |
|   |                                                    | Extract 1 | Extract 1 | Extract I | Part. 1            | Part. 1  | Part. 1            | SRM 1649a | SRM 1649a | SRM 1649a | L              |  |
|   |                                                    | Sample I  | Sample 2  | Sample 3  | Sample 1           | Sample 2 | Sample 3           | Sample 1  | Sample 2  | Sample 3  | Calibration Ra |  |
|   |                                                    | (ng/g)    | (ng/g)    | (ng/g)    | (ng/g as received) |          | (ng/g as received) |           |           |           | to             |  |
|   | Dimethyl Phthalate                                 |           |           |           |                    | 2104.2   | 1342.3             | 1674.8    | 1707.6    | 168.4     | 0.8            |  |
|   | Diethyl Phthalate                                  | 52.80     | 52.80     | 52.80     |                    |          |                    |           |           |           | 0.8            |  |
|   | Naphthalene                                        | 30.20     | 52.80     | 52.80     | 2860.3             | 9795.2   | 8713               | 8798.6    | 8585.9    | 9741.8    | 0.8            |  |
|   | 2-Methylnaphthalene                                | 60.40     | 67.90     | 60.40     | 1032.9             | 3853.6   | 1936.2             | 2248.8    | 2292.8    | 1523.4    | I              |  |
|   | 1-Methylnaphthalene                                | 30.20     | 37.70     | 30.20     | 1787.7             | 1934.9   | 1562               | 1887.1    | 1924      | 1539.4    | 0.9            |  |
|   | 2,7-Dimethylnaphthalene                            |           | 60.40     | 67.90     |                    |          |                    |           |           |           | 0.8            |  |
|   | 1,3-Dimethylnaphthalene                            | 22.60     | 22.60     | 22.60     |                    |          |                    |           |           |           | 0.8            |  |
|   | 2,6-Dimethylnaphthalene                            | 30.20     | 37.70     | 30.20     |                    |          |                    |           |           |           | 0.8            |  |
|   | Acenaphthylene                                     | 22.60     | 22.60     | 22.60     | 1430.2             | 1934.9   | 1952.5             | 1887.1    | 2308.8    | 2309.2    | 1.6            |  |
|   | Acenaphthene                                       |           |           |           |                    |          |                    |           |           |           | 0.8            |  |
|   | Fluorene                                           | 15.10     | 7.50      | 7.50      | 516.4              | 572.4    | 577.6              | 558.3     | 569.2     | 569.3     | 0.16           |  |
|   | 1-Methylfluorene                                   |           |           |           | 1350.7             | 1902.6   |                    | 723.4     | 737.5     |           | 0.4            |  |
|   | Phenanthrene                                       | 249.00    | 279.10    | 279.10    | 8541.2             | 5788.5   | 5841.2             | 6400.4    | 6140.8    | 6911.5    | 0.08           |  |
|   | Anthracene                                         | 45.30     | 45.30     | 45.30     | 1072.6             | 1160.9   | 1171.5             | 754.8     | 769.6     | 1539.4    | 0.08           |  |
|   | 9-Methylanthracene                                 |           |           |           |                    |          |                    |           |           |           | 0.8            |  |
|   | Octylcyclohexane                                   |           |           |           |                    |          |                    |           |           |           | 0.4            |  |
|   | Norpristane                                        |           |           |           |                    |          |                    |           |           |           | 0.4            |  |
|   | Decylcyclohexane                                   |           |           |           |                    |          |                    |           |           |           | 0.4            |  |
|   | Pristane                                           |           |           |           | 2701.4             | 1870.4   | 2277.9             | 314.5     | 320.7     | 705.6     | 0.4            |  |
|   | Phytane                                            |           |           |           | 397.3              | 911      | 2090.8             | 2020.8    | 2060.3    | 1290.9    | 0.4            |  |
|   | Tridecylcyclohexane                                |           |           |           |                    |          |                    |           |           |           | 0.4            |  |
|   | Dibutylphthalate                                   | 105.60    | 105.60    | 83.00     | 6991.9             | 35246.7  | 13309.5            | 6447.6    | 18502.5   | 5035.3    | 0.8            |  |
|   | Butylbenzylphthalate                               | 301.80    | 271.60    | 271.60    | 7667.2             | 28289.3  | 10584.1            | 5323.2    | 17740.9   | 10431.4   | 0.8            |  |
|   | Bis-2-Ethylhexylpthalate                           | 2761.20   | 2368.90   | 2323.70   |                    |          |                    |           |           |           | 0.8            |  |
|   | Dioctylphthalate                                   |           |           |           |                    |          |                    |           |           |           | 0.8            |  |
|   | Fluoranthene                                       | 414.90    | 384.80    | 399.80    | 7508.3             | 8126.4   | 7810               | 7548.4    | 7311.2    | 7312.4    | 0.16           |  |
|   | Рутепе                                             | 347.00    | 316.90    | 316.90    | 6594.6             | 6377     | 5654.1             | 5842.1    | 5571.6    | 5572.5    | 0.08           |  |
|   | Chrysene                                           | 279.10    | 279.10    | 271.60    | 5720.6             | 5417.6   | 5076.5             | 5283.8    | 3848      | 5003.2    | 0.08           |  |
|   | Benzo[a]anthracene                                 | 143.30    | 143.30    | 143.30    | 2860.3             | 2708.8   | 2733.5             | 2641.9    | 2693.6    | 2694      | 0.08           |  |
|   | Benzo[k]fluoranthene                               | 90.50     | 67.90     | 75.40     | 1430.2             | 1160.9   | 1171.5             | 1132.3    | 1154.4    | 1154.6    | 0.08           |  |
|   |                                                    |           | 384.80    | 392.30    | 5005.6             | 5030.6   | 6248               | 6038.7    | 5387.2    | 6542.7    | 0.16           |  |
|   | Benzo[b]fluoranthene                               | 362.10    | 150.90    | 150.90    | 3217.9             | 3869.7   | 3514.5             | 3396.8    | 3078.4    | 3078.9    | 0.08           |  |
|   | Benzo[a]pyrene                                     | 135.80    | 130.90    | 150.90    | 3217.9             | 3609.7   | 3214.5             | 3390.6    | 3076.4    | 3076.9    | 0.4            |  |
|   | Nonadecylcyelohexane                               |           |           |           |                    |          |                    |           |           |           | 0.E            |  |
|   | Squalane                                           | 100.00    | 211.20    | 20.2 70   | 2022.0             | 3403.7   | 3514.5             | 3774.2    | 3078.4    | 3463.8    | 0.08           |  |
|   | Indeno[1,2,3-cd]pyrene                             | 188.60    | 211.20    | 203.70    | 3932.9             | 3482.7   | 3314.3             | 3114.2    | 3076.4    | 3403.6    | 0.16           |  |
|   | Dibenz[a,h]anthracene                              | 22.60     | 30.20     | 22.60     | 20/0.2             | 1840.7   | 2014.6             | 3774.2    | 3463.2    | 3463.8    | 0.16           |  |
|   | Benzo[ghi]perylene                                 | 218.80    | 211.20    | 211.20    | 2860.3             | 3869.7   | 3514.5             |           |           |           |                |  |
|   | Coronene                                           | 188.60    | 203.70    | 188.60    | 3217.9             | 5030.6   | 3514.5             | 3019.3    | 3463.2    | 3078.9    | 0.1            |  |
|   | Cholestane 1                                       | 128.30    | 98.10     | 150.90    | 1072.6             |          |                    | 1509.7    |           |           | 0.04           |  |
|   | Cholestane 2                                       | 135.80    | 218.80    | 294.20    | 2145.2             |          |                    | 3019.3    |           |           | 0.04           |  |
|   | Cholestane 3                                       | 369.70    | 181.10    | 218.80    | 1787.7             |          |                    |           |           |           | 0.04           |  |
|   | Cholestane 4                                       | 392.30    | 497.90    | 520.60    | 786 5.9            | 4256.7   | 3514.5             | 6038.7    |           | 5003.2    | 0.04           |  |
|   | ABB Methylcholestane                               | 181.10    | 211.20    | 316.90    | 4648               | 2321.8   | 3514.5             | 1509.7    | 1154.4    | 1539.4    | 0.04           |  |
|   | ABB Ethylcholestane                                | 354.60    | 490.40    | 550.70    | 3932.9             | 3095.8   | 7419.5             | 5283.8    | 4617.6    | 5003.2    | 0.04           |  |
|   | Trisnorhopane                                      | 173.50    | 226.30    | 324.40    | 2860.3             | 2321.8   | 3124               | 2264.5    | 2693.6    | 3463.8    | 0.04           |  |
|   | Northopane                                         |           |           |           |                    |          |                    |           |           |           | 0.04           |  |
|   | 17b(H),21b(H)-hopane                               | 1214.60   | 1591.90   | 1840.80   | 15731.8            | 12770.1  | 19134.4            | 15851.5   | 16931.2   | 14624.8   | 0.04           |  |
|   | Hopane 2                                           |           |           |           |                    |          |                    |           |           |           | 0.04           |  |
|   | Hopane 3                                           |           |           |           |                    |          |                    |           |           |           | 0.04           |  |
|   | n-Decane                                           |           |           |           |                    |          |                    |           |           |           | 0.4            |  |
|   | n-Undecane                                         |           |           |           |                    |          |                    |           |           |           | 0.4            |  |
|   | n-Dodecane                                         |           |           |           |                    |          |                    |           |           |           | 0.4            |  |
|   | n-Tridecane                                        |           |           |           |                    |          |                    |           |           |           | 0.4            |  |
|   | 9H-Fuorenone                                       | 98.10     | 90.50     | 90.50     | 3575.4             | 2708.8   | 2733.5             | 2641.9    | 3463.2    | 2694      | 0.4            |  |
|   | n-Tetradecane                                      | 37.70     | 30.20     | 30.20     |                    | 395      |                    |           | 8         |           | 0.4            |  |
|   | n-Pentadecane                                      | 67.90     | 113.20    | 67.90     | 5720.6             | 13157    | 23820.4            | 25664.4   | 45406.4   | 21937.1   | 0.4            |  |
|   | n-Hexadecane                                       | 30.20     | 52.80     | 67.90     | 2224.7             | 2329.9   | 8.1                | 1140.1    | 3471.2    |           | 0.4            |  |
|   | n-Heptadecane                                      | 52.80     | 67.90     | 45.30     | 3098.7             | 1620.4   | 463.7              | 1580.4    | 72.2      |           | 0.4            |  |
|   | I-Octadecene                                       |           |           |           |                    |          |                    |           |           |           | 0.8            |  |
|   | n-Octadecane                                       | 45.30     | 67.90     | 45.30     | 953.4              | 846.5    | 854.2              | 825.6     | 1226.6    |           | 0.4            |  |
|   | 2-Methylnonadecane                                 |           |           |           |                    |          |                    |           |           |           | 0.1            |  |
|   | 3-Methylnonadecane                                 |           |           |           |                    |          |                    |           |           |           | 0.1            |  |
|   | n-Eicosane                                         | 83.00     | 90.50     | 67.90     | 1430.2             | 1668.8   | 1293.5             | 1627.6    | 2429.1    | 1274.9    | 0.4            |  |
|   | Pyrene                                             | 75.40     | 67.90     | 67.90     | 1430.2             | 1160.9   | 1171.5             | 754.8     | 769.6     | 769.7     | 0.02           |  |
|   | Anthroginone                                       | 120.70    | 120.70    | 120.70    |                    |          |                    |           | 6509.5    |           | 0.24           |  |
|   | 1,8 Naphthalic Anydride                            | 1380.60   | 1350.40   | 1342.90   | 25385.3            | 32118.7  | 21867.9            | 23399.9   | 21548.8   | 23091.7   | 0.4            |  |
|   | Methylfluoranthene                                 |           |           |           |                    |          |                    |           |           |           | 0.02           |  |
|   | Retene                                             |           |           |           |                    |          |                    |           |           |           | 0.1            |  |
|   | Cyclopenta[cd]pyrene                               |           |           |           |                    |          |                    |           |           |           | 0.1            |  |
|   | Benzo[a]anthacene                                  | 399.80    | 407.40    | 399.80    | 6793.3             | 8513.4   | 7810               | 7548.4    | 6156.8    | 8082.1    | 0.4            |  |
|   | Methylchrysene                                     | 277.00    | 707.70    | 2,7,00    | 5.75.5             | 00.0     |                    |           |           |           | 0.02           |  |
|   | Benzo[a]pyrene                                     | 181.10    | 188.60    | 188.60    | 3932.9             | 3482.7   | 5076.5             | 4906.4    | 3848      | 4233.5    | 0.2            |  |
|   | 1 countries la la la la la la la la la la la la la | 101.10    | .00.00    | .00.00    |                    |          |                    |           |           |           |                |  |
|   | n-Tetracosane                                      | 1606.90   | 1591.90   | 1606.90   | 25464.8            | 35295.1  | 28197.2            | 26120.5   | 33942.6   | 55885.2   | 0.4            |  |

0.04 17

6.1 7.3

6.27 15 6.3 6.3

| 1 1 | Squalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                              |                                                                                                                                                                                           |                                                                                                                                                                                      |                                                                                                                                                                                                  |                                                                                                                                                                                                                                 |                                                                                                                                                                                                        |                                                                                                                                                                                                  |                                                                                                                                                                                                      |                                                                                                                                                                                                     | 0.8  |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
|     | Dibenzo[a,e]pyrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                              |                                                                                                                                                                                           |                                                                                                                                                                                      |                                                                                                                                                                                                  |                                                                                                                                                                                                                                 |                                                                                                                                                                                                        |                                                                                                                                                                                                  |                                                                                                                                                                                                      |                                                                                                                                                                                                     | 0.8  |
|     | n-Triacontane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1161.80                                                                                                                                                                                                                      | 1199.50                                                                                                                                                                                   | 1139.20                                                                                                                                                                              | 41593.8                                                                                                                                                                                          | 47525                                                                                                                                                                                                                           | 25699.6                                                                                                                                                                                                | 22510.4                                                                                                                                                                                          | 36969 7                                                                                                                                                                                              | 00766.3                                                                                                                                                                                             |      |
| 1 1 | n-Dotriacontane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 641.30                                                                                                                                                                                                                       | 694.10                                                                                                                                                                                    | 618.60                                                                                                                                                                               | 24749.7                                                                                                                                                                                          | 28498.9                                                                                                                                                                                                                         | 25699.6<br>26025.1                                                                                                                                                                                     | 33519.4                                                                                                                                                                                          | 36868.7                                                                                                                                                                                              | 90755.3                                                                                                                                                                                             | 0.8  |
| 1 1 | Hexanoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 611.10                                                                                                                                                                                                                       | 464.70                                                                                                                                                                                    | 425.50                                                                                                                                                                               | 24749.7                                                                                                                                                                                          | 19200                                                                                                                                                                                                                           | 12700                                                                                                                                                                                                  | 13830.8                                                                                                                                                                                          | 18718.9                                                                                                                                                                                              | 48741.2                                                                                                                                                                                             | 0.4  |
| 1 1 | Succinic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1629.60                                                                                                                                                                                                                      | 1705.00                                                                                                                                                                                   | 1425.90                                                                                                                                                                              | 109000                                                                                                                                                                                           | 132000                                                                                                                                                                                                                          | 57600                                                                                                                                                                                                  | 12500<br>49000                                                                                                                                                                                   | 11000                                                                                                                                                                                                | 7520                                                                                                                                                                                                | 0.8  |
|     | Octanoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 569.60                                                                                                                                                                                                                       | 529.60                                                                                                                                                                                    | 461.00                                                                                                                                                                               | 9340                                                                                                                                                                                             | 13000                                                                                                                                                                                                                           | 8600                                                                                                                                                                                                   | 8740                                                                                                                                                                                             | 55400<br>7980                                                                                                                                                                                        | 38400                                                                                                                                                                                               | 0.25 |
|     | Glutane acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 519.00                                                                                                                                                                                                                       | 505.50                                                                                                                                                                                    | 439.80                                                                                                                                                                               | 18300                                                                                                                                                                                            | 25400                                                                                                                                                                                                                           | 9720                                                                                                                                                                                                   |                                                                                                                                                                                                  |                                                                                                                                                                                                      | 7130                                                                                                                                                                                                | 0.8  |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 335.00                                                                                                                                                                                                                       | 350.10                                                                                                                                                                                    |                                                                                                                                                                                      |                                                                                                                                                                                                  |                                                                                                                                                                                                                                 |                                                                                                                                                                                                        | 6840                                                                                                                                                                                             | 10500                                                                                                                                                                                                | 6730                                                                                                                                                                                                | 0.3  |
|     | Adipic scid Decanoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 310.10                                                                                                                                                                                                                       |                                                                                                                                                                                           | 262.50                                                                                                                                                                               | 10400<br>6920                                                                                                                                                                                    | 13400<br>25900                                                                                                                                                                                                                  | 5610                                                                                                                                                                                                   | 5700                                                                                                                                                                                             | 5990                                                                                                                                                                                                 | 4360                                                                                                                                                                                                | 0.25 |
|     | Pimelic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 310.10                                                                                                                                                                                                                       | 285.20                                                                                                                                                                                    | 255.00                                                                                                                                                                               | 6920                                                                                                                                                                                             | 23900                                                                                                                                                                                                                           | 21700                                                                                                                                                                                                  | 22400                                                                                                                                                                                            | 71900                                                                                                                                                                                                | 19400                                                                                                                                                                                               | 0.6  |
| 1 1 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1530.00                                                                                                                                                                                                                      | 73.20                                                                                                                                                                                     | 1242.00                                                                                                                                                                              | 34000                                                                                                                                                                                            | 41800                                                                                                                                                                                                                           | 24000                                                                                                                                                                                                  | 18000                                                                                                                                                                                            |                                                                                                                                                                                                      |                                                                                                                                                                                                     | 0.25 |
| 1 ( | Suberic scid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1539.00                                                                                                                                                                                                                      | 1486.20                                                                                                                                                                                   | 1342.90                                                                                                                                                                              | 36000                                                                                                                                                                                            | 41800                                                                                                                                                                                                                           | 25000                                                                                                                                                                                                  | 17900                                                                                                                                                                                            | 19500                                                                                                                                                                                                | 13500                                                                                                                                                                                               | 0.25 |
| 1 1 | Dodecanoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 259.50                                                                                                                                                                                                                       | 220.30                                                                                                                                                                                    | 206.00                                                                                                                                                                               | 4500                                                                                                                                                                                             | 4320                                                                                                                                                                                                                            | 3370                                                                                                                                                                                                   | 4940                                                                                                                                                                                             | 6490                                                                                                                                                                                                 | 3960                                                                                                                                                                                                | 0.7  |
| 1 1 | Azelaic acid<br>Pinonic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 83.70                                                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                      |                                                                                                                                                                                                  |                                                                                                                                                                                                                                 |                                                                                                                                                                                                        |                                                                                                                                                                                                  | ****                                                                                                                                                                                                 |                                                                                                                                                                                                     | 0.23 |
|     | Phthalic acid (1,2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 882.70                                                                                                                                                                                                                       | 875.10                                                                                                                                                                                    | 667.70                                                                                                                                                                               | 67800                                                                                                                                                                                            | 92200                                                                                                                                                                                                                           | 47100                                                                                                                                                                                                  | 44000                                                                                                                                                                                            | 2000                                                                                                                                                                                                 | ****                                                                                                                                                                                                | 0.9  |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                              | 244.40                                                                                                                                                                                    |                                                                                                                                                                                      | 67800                                                                                                                                                                                            |                                                                                                                                                                                                                                 |                                                                                                                                                                                                        | 44800                                                                                                                                                                                            | 44900                                                                                                                                                                                                | 39200                                                                                                                                                                                               | 0.25 |
| 1   | Terephthalic acid (1,4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 251.20                                                                                                                                                                                                                       |                                                                                                                                                                                           | 198.40                                                                                                                                                                               |                                                                                                                                                                                                  | 11000                                                                                                                                                                                                                           | 7110                                                                                                                                                                                                   |                                                                                                                                                                                                  | 6490                                                                                                                                                                                                 | 7520                                                                                                                                                                                                | 0.24 |
|     | Isophthalic acid (1,3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 175.80                                                                                                                                                                                                                       | 163.00                                                                                                                                                                                    | 141.80                                                                                                                                                                               | 8300                                                                                                                                                                                             | 6240                                                                                                                                                                                                                            | 4490                                                                                                                                                                                                   | 4560                                                                                                                                                                                             | 3990                                                                                                                                                                                                 | 4750                                                                                                                                                                                                | 0.26 |
| 1 1 | Methylphthalic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 377.20                                                                                                                                                                                                                       | 366.70                                                                                                                                                                                    | 298.00                                                                                                                                                                               | 21800                                                                                                                                                                                            | 26900                                                                                                                                                                                                                           | 14600                                                                                                                                                                                                  | 14400                                                                                                                                                                                            | 14500                                                                                                                                                                                                | 13900                                                                                                                                                                                               | 0.25 |
|     | 1,2,4 Benzene tricarboxylic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 16.60                                                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                                                                                      |                                                                                                                                                                                                  | 6720                                                                                                                                                                                                                            | 5610                                                                                                                                                                                                   | 4180                                                                                                                                                                                             | 4490                                                                                                                                                                                                 | 4360                                                                                                                                                                                                | 0.24 |
| 1 1 | 1,2,4,5-Benzenetetracarboxylic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 8.30                                                                                                                                                                                                                         |                                                                                                                                                                                           |                                                                                                                                                                                      |                                                                                                                                                                                                  | 480                                                                                                                                                                                                                             |                                                                                                                                                                                                        |                                                                                                                                                                                                  |                                                                                                                                                                                                      |                                                                                                                                                                                                     | 0.24 |
|     | Abietic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 402.40                                                                                                                                                                                                                       | 300.00                                                                                                                                                                                    | 261.40                                                                                                                                                                               | 7/10                                                                                                                                                                                             | 7/80                                                                                                                                                                                                                            | *2*0                                                                                                                                                                                                   |                                                                                                                                                                                                  | 4000                                                                                                                                                                                                 | 3150                                                                                                                                                                                                | 0.7  |
| 1 1 | Sebacic acid Tetradecanoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 402.10                                                                                                                                                                                                                       | 390.80                                                                                                                                                                                    | 361.40<br>799.70                                                                                                                                                                     | 7610                                                                                                                                                                                             | 7680<br>27400                                                                                                                                                                                                                   | 5240                                                                                                                                                                                                   | 24400                                                                                                                                                                                            | 4990                                                                                                                                                                                                 | 3170                                                                                                                                                                                                | 0.23 |
| 1 1 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 958.10                                                                                                                                                                                                                       | 905.30                                                                                                                                                                                    | /99.70                                                                                                                                                                               | 23500                                                                                                                                                                                            | 27400                                                                                                                                                                                                                           | 25100                                                                                                                                                                                                  | 25500                                                                                                                                                                                            | 27900                                                                                                                                                                                                | 26500                                                                                                                                                                                               | 0.6  |
| 1 1 | Palmitoleic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                              |                                                                                                                                                                                           |                                                                                                                                                                                      | 20/000                                                                                                                                                                                           | 339000                                                                                                                                                                                                                          | 277000                                                                                                                                                                                                 | 274000                                                                                                                                                                                           | 201000                                                                                                                                                                                               | 211000                                                                                                                                                                                              | 0.6  |
| 1 1 | Hexadecanoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                              |                                                                                                                                                                                           |                                                                                                                                                                                      | 286000                                                                                                                                                                                           | 339000                                                                                                                                                                                                                          | 277000                                                                                                                                                                                                 | 274000                                                                                                                                                                                           | 291000                                                                                                                                                                                               | 311000                                                                                                                                                                                              | 0.6  |
|     | Linoleic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 737 10                                                                                                                                                                                                                       | 700.30                                                                                                                                                                                    | 630.22                                                                                                                                                                               | 10700                                                                                                                                                                                            | 13000                                                                                                                                                                                                                           | 10000                                                                                                                                                                                                  | 10000                                                                                                                                                                                            | 13600                                                                                                                                                                                                | 10200                                                                                                                                                                                               | 0.6  |
| , , | Oleic scid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 737.10                                                                                                                                                                                                                       | 709.20                                                                                                                                                                                    | 638.20                                                                                                                                                                               | 10700                                                                                                                                                                                            | 13900                                                                                                                                                                                                                           | 10900                                                                                                                                                                                                  | 10600                                                                                                                                                                                            | 13500                                                                                                                                                                                                | 10300                                                                                                                                                                                               | 0.7  |
| 1 1 | Linolenic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 12600.00                                                                                                                                                                                                                     | 11642.00                                                                                                                                                                                  | 0733.00                                                                                                                                                                              | 144000                                                                                                                                                                                           | Innoce                                                                                                                                                                                                                          | 124000                                                                                                                                                                                                 | 140000                                                                                                                                                                                           | 121000                                                                                                                                                                                               | 12000                                                                                                                                                                                               | 0.7  |
| 1 1 | Octadecanoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 12599.00                                                                                                                                                                                                                     | 11542.80                                                                                                                                                                                  | 9732.20                                                                                                                                                                              | 156000                                                                                                                                                                                           | 180000                                                                                                                                                                                                                          | 156000                                                                                                                                                                                                 | 158000                                                                                                                                                                                           | 171000                                                                                                                                                                                               | 179000                                                                                                                                                                                              | 0.5  |
|     | Eicosanoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1682.40                                                                                                                                                                                                                      | 1659.80                                                                                                                                                                                   | 1433.40                                                                                                                                                                              | 24900                                                                                                                                                                                            | 27800                                                                                                                                                                                                                           | 25800                                                                                                                                                                                                  | 25900                                                                                                                                                                                            | 27500                                                                                                                                                                                                | 28500                                                                                                                                                                                               | 0.5  |
|     | Docosanoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2942.30                                                                                                                                                                                                                      | 2934.70                                                                                                                                                                                   | 2534.90                                                                                                                                                                              | 41900                                                                                                                                                                                            | 44200                                                                                                                                                                                                                           | 41100                                                                                                                                                                                                  | 43300                                                                                                                                                                                            | 46400                                                                                                                                                                                                | 49500                                                                                                                                                                                               | 0.5  |
| 1 1 | Tetracosanoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2663.10                                                                                                                                                                                                                      | 2655.60                                                                                                                                                                                   | 2278.40                                                                                                                                                                              | 39100                                                                                                                                                                                            | 41300                                                                                                                                                                                                                           | 38500                                                                                                                                                                                                  | 39100                                                                                                                                                                                            | 47900                                                                                                                                                                                                | 45500                                                                                                                                                                                               | 0.6  |
|     | Octacosanoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 3236.50                                                                                                                                                                                                                      | 3500.60                                                                                                                                                                                   | 2829.10                                                                                                                                                                              | 54000                                                                                                                                                                                            | 60500                                                                                                                                                                                                                           | 59100                                                                                                                                                                                                  | 56200                                                                                                                                                                                            | 60900                                                                                                                                                                                                | 62600                                                                                                                                                                                               | 0.6  |
|     | Triacontanoic scid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5469.60                                                                                                                                                                                                                      | 6292.00                                                                                                                                                                                   | 5296.10                                                                                                                                                                              | 68200                                                                                                                                                                                            | 68600                                                                                                                                                                                                                           | 76700                                                                                                                                                                                                  | 72200                                                                                                                                                                                            | 80800                                                                                                                                                                                                | 82800                                                                                                                                                                                               | 0.6  |
| 1 1 | Glycerine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 142.60                                                                                                                                                                                                                       | 154.70                                                                                                                                                                                    |                                                                                                                                                                                      | 6920                                                                                                                                                                                             |                                                                                                                                                                                                                                 | 8600                                                                                                                                                                                                   | 6260                                                                                                                                                                                             | 1500                                                                                                                                                                                                 | 3800                                                                                                                                                                                                | 6    |
|     | Levoglucosan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 535.60                                                                                                                                                                                                                       | 890.20                                                                                                                                                                                    | 617.10                                                                                                                                                                               | 47700                                                                                                                                                                                            | 24100                                                                                                                                                                                                                           | 14600                                                                                                                                                                                                  | 11800                                                                                                                                                                                            | 11500                                                                                                                                                                                                | 7980                                                                                                                                                                                                | 6    |
|     | Monopalmitin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 267.80                                                                                                                                                                                                                       | 464.70                                                                                                                                                                                    | 467.70                                                                                                                                                                               | 4150                                                                                                                                                                                             | 5750                                                                                                                                                                                                                            | 5240                                                                                                                                                                                                   | 5150                                                                                                                                                                                             | 4990                                                                                                                                                                                                 | 5320                                                                                                                                                                                                | 1.2  |
|     | Monoolein                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                              |                                                                                                                                                                                           |                                                                                                                                                                                      |                                                                                                                                                                                                  |                                                                                                                                                                                                                                 |                                                                                                                                                                                                        |                                                                                                                                                                                                  | 15000                                                                                                                                                                                                |                                                                                                                                                                                                     | 1.2  |
| 1   | Monostearin                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 108.60                                                                                                                                                                                                                       |                                                                                                                                                                                           |                                                                                                                                                                                      | 1000                                                                                                                                                                                             |                                                                                                                                                                                                                                 |                                                                                                                                                                                                        |                                                                                                                                                                                                  | 46000                                                                                                                                                                                                |                                                                                                                                                                                                     | 1.2  |
|     | Cholesterol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                              |                                                                                                                                                                                           |                                                                                                                                                                                      |                                                                                                                                                                                                  | 14600                                                                                                                                                                                                                           | 12700                                                                                                                                                                                                  |                                                                                                                                                                                                  |                                                                                                                                                                                                      |                                                                                                                                                                                                     | 8    |
| 5   | Stigmasterol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                              |                                                                                                                                                                                           | 325.90                                                                                                                                                                               |                                                                                                                                                                                                  |                                                                                                                                                                                                                                 |                                                                                                                                                                                                        |                                                                                                                                                                                                  | 5490                                                                                                                                                                                                 |                                                                                                                                                                                                     | 6.7  |
| 7   | Coelution of chrysene and tripenylene rep                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Extract I                                                                                                                                                                                                                    | Extract 1                                                                                                                                                                                 | Extract 1                                                                                                                                                                            | Part. 1                                                                                                                                                                                          | Part. I                                                                                                                                                                                                                         | Part. I                                                                                                                                                                                                | SRM 1649a                                                                                                                                                                                        | SRM 1649a                                                                                                                                                                                            | SRM 1649a                                                                                                                                                                                           |      |
| 1   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sample I                                                                                                                                                                                                                     | Sample 2                                                                                                                                                                                  | Sample 3                                                                                                                                                                             | Sample I                                                                                                                                                                                         | Sample 2                                                                                                                                                                                                                        | Sample 3                                                                                                                                                                                               | Sample I                                                                                                                                                                                         | Sample 2                                                                                                                                                                                             | Sample 3                                                                                                                                                                                            | 1    |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | (ng/g)                                                                                                                                                                                                                       | (ng/g)                                                                                                                                                                                    | (ng/g)                                                                                                                                                                               | •                                                                                                                                                                                                | (ng/g as received)                                                                                                                                                                                                              | •                                                                                                                                                                                                      | -                                                                                                                                                                                                | •                                                                                                                                                                                                    |                                                                                                                                                                                                     |      |
|     | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                              | ( B B)                                                                                                                                                                                    |                                                                                                                                                                                      |                                                                                                                                                                                                  |                                                                                                                                                                                                                                 |                                                                                                                                                                                                        |                                                                                                                                                                                                  |                                                                                                                                                                                                      |                                                                                                                                                                                                     | ı    |
| i   | acetophenone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 69.0                                                                                                                                                                                                                         | 58.0                                                                                                                                                                                      | 62.0                                                                                                                                                                                 |                                                                                                                                                                                                  |                                                                                                                                                                                                                                 |                                                                                                                                                                                                        |                                                                                                                                                                                                  |                                                                                                                                                                                                      |                                                                                                                                                                                                     | l    |
|     | acetophenone<br>benzoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 69.0<br>2300                                                                                                                                                                                                                 | 58.0<br>2119                                                                                                                                                                              | 62.0<br>2164                                                                                                                                                                         | 19000                                                                                                                                                                                            | 600                                                                                                                                                                                                                             |                                                                                                                                                                                                        | 22600                                                                                                                                                                                            | 18800                                                                                                                                                                                                | 22300                                                                                                                                                                                               |      |
|     | benzoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2300                                                                                                                                                                                                                         | 58.0<br>2119                                                                                                                                                                              | 62.0<br>2164                                                                                                                                                                         | 19000                                                                                                                                                                                            |                                                                                                                                                                                                                                 | 21600                                                                                                                                                                                                  | 22600                                                                                                                                                                                            | 18800                                                                                                                                                                                                | 22300                                                                                                                                                                                               |      |
|     | benzoic acid<br>1,2,4-trichlorobenzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2300<br>26.0                                                                                                                                                                                                                 | 2119                                                                                                                                                                                      | 2164                                                                                                                                                                                 |                                                                                                                                                                                                  | 600<br>20700                                                                                                                                                                                                                    | 21600                                                                                                                                                                                                  |                                                                                                                                                                                                  |                                                                                                                                                                                                      |                                                                                                                                                                                                     |      |
|     | benzoic acid 1,2,4-trichlorobenzene naphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2300<br>26.0<br>56.0                                                                                                                                                                                                         | 2119<br>54.0                                                                                                                                                                              | 2164<br>63.0                                                                                                                                                                         | 1080                                                                                                                                                                                             | 600<br>20700<br>660                                                                                                                                                                                                             | 21600<br>577                                                                                                                                                                                           | 564                                                                                                                                                                                              | 18800<br>709<br>743                                                                                                                                                                                  | 22300<br>901<br>1010                                                                                                                                                                                |      |
|     | benzoic acid 1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2300<br>26.0<br>56.0<br>62.0                                                                                                                                                                                                 | 54.0<br>57.0                                                                                                                                                                              | 2164<br>63.0<br>69.0                                                                                                                                                                 | 1080<br>1210                                                                                                                                                                                     | 600<br>20700<br>660<br>679                                                                                                                                                                                                      | 21600<br>577<br>662                                                                                                                                                                                    | 564<br>661                                                                                                                                                                                       | 709<br>743                                                                                                                                                                                           | 901<br>1010                                                                                                                                                                                         |      |
|     | benzoic acid 1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2300<br>26.0<br>56.0<br>62.0<br>32.0                                                                                                                                                                                         | 2119<br>54.0                                                                                                                                                                              | 2164<br>63.0                                                                                                                                                                         | 1080                                                                                                                                                                                             | 600<br>20700<br>660                                                                                                                                                                                                             | 21600<br>577                                                                                                                                                                                           | 564                                                                                                                                                                                              | 709                                                                                                                                                                                                  | 901                                                                                                                                                                                                 |      |
|     | benzoic acid 1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244                                                                                                                                                                                  | 54.0<br>57.0                                                                                                                                                                              | 2164<br>63.0<br>69.0                                                                                                                                                                 | 1080<br>1210                                                                                                                                                                                     | 600<br>20700<br>660<br>679                                                                                                                                                                                                      | 21600<br>577<br>662                                                                                                                                                                                    | 564<br>661                                                                                                                                                                                       | 709<br>743                                                                                                                                                                                           | 901<br>1010                                                                                                                                                                                         |      |
| 1   | benzoic acid 1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-tnchlorophenol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244                                                                                                                                                                                  | 2119<br>54.0<br>57.0<br>30.0                                                                                                                                                              | 2164<br>63.0<br>69.0                                                                                                                                                                 | 1080<br>1210<br>403                                                                                                                                                                              | 600<br>20700<br>660<br>679<br>347                                                                                                                                                                                               | 21600<br>577<br>662<br>313                                                                                                                                                                             | 564<br>661<br>316                                                                                                                                                                                | 709<br>743<br>324                                                                                                                                                                                    | 901<br>1010<br>361                                                                                                                                                                                  |      |
| 1   | benzoic acid 1,2,4-richlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2.4,6-trichlorophenol 2,4,5-mchlorophenol biphenyl                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0                                                                                                                                                                   | 2119<br>54.0<br>57.0<br>30.0                                                                                                                                                              | 2164<br>63.0<br>69.0<br>43.0                                                                                                                                                         | 1080<br>1210<br>403                                                                                                                                                                              | 600<br>20700<br>660<br>679<br>347                                                                                                                                                                                               | 21600<br>577<br>662<br>313                                                                                                                                                                             | 564<br>661<br>316                                                                                                                                                                                | 709<br>743<br>324                                                                                                                                                                                    | 901<br>1010                                                                                                                                                                                         |      |
| 1   | benzoic acid 1,2,4-richlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-richlorophenol 2,4,5-methorophenol biphenyl acenaphthylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0                                                                                                                                                           | 2119<br>54.0<br>57.0<br>30.0                                                                                                                                                              | 2164<br>63.0<br>69.0                                                                                                                                                                 | 1080<br>1210<br>403                                                                                                                                                                              | 600<br>20700<br>660<br>679<br>347                                                                                                                                                                                               | 21600<br>577<br>662<br>313<br>415<br>300                                                                                                                                                               | 564<br>661<br>316                                                                                                                                                                                | 709<br>743<br>324<br>508<br>272                                                                                                                                                                      | 901<br>1010<br>361                                                                                                                                                                                  |      |
| 1   | benzoic acid 1,2,4-richlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-trichlorophenol biphenyl acenaphthylene acenaphthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0                                                                                                                                                           | 2119<br>54.0<br>57.0<br>30.0<br>25.0<br>24.0                                                                                                                                              | 2164<br>63.0<br>69.0<br>43.0                                                                                                                                                         | 1080<br>1210<br>403<br>625<br>322                                                                                                                                                                | 600<br>20700<br>660<br>679<br>347<br>442<br>268                                                                                                                                                                                 | 21600<br>577<br>662<br>313                                                                                                                                                                             | 564<br>661<br>316                                                                                                                                                                                | 709<br>743<br>324                                                                                                                                                                                    | 901<br>1010<br>361                                                                                                                                                                                  |      |
|     | benzoic acid 1,2,4-richlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-mchlorophenol biphenyl acenaphthylene acenaphthene 4-nitrophenol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0<br>14.0                                                                                                                                                   | 2119<br>54.0<br>57.0<br>30.0<br>25.0<br>24.0                                                                                                                                              | 2164<br>63.0<br>69.0<br>43.0                                                                                                                                                         | 1080<br>1210<br>403<br>625<br>322                                                                                                                                                                | 600<br>20700<br>660<br>679<br>347<br>442<br>268                                                                                                                                                                                 | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2                                                                                                                                                       | 564<br>661<br>316<br>356<br>268                                                                                                                                                                  | 709<br>743<br>324<br>508<br>272<br>114                                                                                                                                                               | 901<br>1010<br>361<br>732<br>300                                                                                                                                                                    |      |
|     | benzoic acid 1,2,4-richlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-trichlorophenol biphenyl acenaphthylene acenaphthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0                                                                                                                                                           | 2119<br>54.0<br>57.0<br>30.0<br>25.0<br>24.0                                                                                                                                              | 2164<br>63.0<br>69.0<br>43.0<br>26.0                                                                                                                                                 | 1080<br>1210<br>403<br>625<br>322                                                                                                                                                                | 600<br>20700<br>660<br>679<br>347<br>442<br>268                                                                                                                                                                                 | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900                                                                                                                                              | 564<br>661<br>316<br>356<br>268                                                                                                                                                                  | 709<br>743<br>324<br>508<br>272<br>114<br>14100                                                                                                                                                      | 901<br>1010<br>361<br>732<br>300                                                                                                                                                                    |      |
|     | benzoic acid 1,2,4-richlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-richlorophenol 2,4,5-richlorophenol biphenyl acenaphthylene acenaphthene 4-nitrophenol diethylphthalate fluorene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0<br>14.0<br>1041<br>64.0<br>23.0                                                                                                                           | 2119<br>54.0<br>57.0<br>30.0<br>25.0<br>24.0<br>935<br>52.0<br>21.0                                                                                                                       | 2164<br>63.0<br>69.0<br>43.0<br>26.0<br>1063<br>77.0<br>21.0                                                                                                                         | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210                                                                                                                                               | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620                                                                                                                                                                | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850                                                                                                                                      | 564<br>661<br>316<br>356<br>268<br>15300<br>789                                                                                                                                                  | 709<br>743<br>324<br>508<br>272<br>114<br>14100<br>2190                                                                                                                                              | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650                                                                                                                                                   |      |
|     | benzoic acid 1,2,4-richlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-richlorophenol 2,4,5-mehlorophenol biphenyl acenaphthylene acenaphthene 4-nitrophenol diethylphthalate fluorene hexachlorobenzene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0<br>14.0<br>1041<br>64.0<br>23.0<br>94.0                                                                                                                   | 2119<br>54.0<br>57.0<br>30.0<br>25.0<br>24.0<br>935<br>52.0<br>21.0<br>64.0                                                                                                               | 2164<br>63.0<br>69.0<br>43.0<br>26.0<br>1063<br>77.0<br>21.0<br>65.0                                                                                                                 | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210<br>186                                                                                                                                        | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195                                                                                                                                                         | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850                                                                                                                                      | 564<br>661<br>316<br>356<br>268<br>15300<br>789<br>178                                                                                                                                           | 709<br>743<br>324<br>508<br>272<br>114<br>14100<br>2190                                                                                                                                              | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650                                                                                                                                                   |      |
|     | benzoic acid 1,2,4-richlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-richlorophenol 2,4,5-richlorophenol biphenyl acenaphthylene acenaphthene 4-nitrophenol diethylphthalate fluorene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0<br>14.0<br>1041<br>64.0<br>23.0                                                                                                                           | 2119<br>54.0<br>57.0<br>30.0<br>25.0<br>24.0<br>935<br>52.0<br>21.0                                                                                                                       | 2164<br>63.0<br>69.0<br>43.0<br>26.0<br>1063<br>77.0<br>21.0                                                                                                                         | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210                                                                                                                                               | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620                                                                                                                                                                | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850                                                                                                                                      | 564<br>661<br>316<br>356<br>268<br>15300<br>789                                                                                                                                                  | 709<br>743<br>324<br>508<br>272<br>114<br>14100<br>2190<br>159                                                                                                                                       | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223                                                                                                                                            |      |
|     | benzoic acid 1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-mchlorophenol biphenyl acenaphthylene acenaphthene 4-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0<br>14.0<br>1041<br>64.0<br>23.0<br>94.0                                                                                                                   | 2119<br>54.0<br>57.0<br>30.0<br>25.0<br>24.0<br>935<br>52.0<br>21.0<br>64.0<br>913                                                                                                        | 2164<br>63.0<br>69.0<br>43.0<br>26.0<br>1063<br>77.0<br>21.0<br>65.0<br>905                                                                                                          | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210<br>186                                                                                                                                        | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195                                                                                                                                                         | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850<br>1850<br>6440                                                                                                                      | 564<br>661<br>316<br>356<br>268<br>15300<br>789<br>178                                                                                                                                           | 709 743 324 508 272 114 14100 2190 159 6310                                                                                                                                                          | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223                                                                                                                                            |      |
|     | benzoic acid 1,2,4-richlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-richlorophenol biphenyl accnaphthylene acenaphthene 4-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0<br>14.0<br>1041<br>64.0<br>23.0<br>94.0<br>1018                                                                                                           | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300                                                                                                                                  | 2164<br>63.0<br>69.0<br>43.0<br>26.0<br>1063<br>77.0<br>21.0<br>65.0<br>905<br>321                                                                                                   | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210<br>186<br>6250<br>4100                                                                                                                        | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020                                                                                                                                         | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850<br>1850<br>6440<br>4240                                                                                                              | 564<br>661<br>316<br>356<br>268<br>15300<br>789<br>178<br>6560<br>4030                                                                                                                           | 709 743 324 508 272 114 14100 2190 159 6310 3980                                                                                                                                                     | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223<br>6480<br>4600                                                                                                                            |      |
|     | benzoic acid 1,2,4-richlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-richlorophenol 2,4,5-richlorophenol biphenyl acenaphthylene acenaphthylene dethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene anthracene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0<br>14.0<br>1041<br>64.0<br>23.0<br>94.0<br>1018<br>300<br>47.0                                                                                            | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300                                                                                                                                  | 2164<br>63.0<br>69.0<br>43.0<br>26.0<br>1063<br>77.0<br>21.0<br>65.0<br>905<br>321                                                                                                   | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210<br>186<br>6250<br>4100                                                                                                                        | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020                                                                                                                                         | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850<br>1850<br>6440<br>4240                                                                                                              | 564<br>661<br>316<br>356<br>268<br>15300<br>789<br>178<br>6560<br>4030                                                                                                                           | 709 743 324 508 272 114 14100 2190 159 6310 3980                                                                                                                                                     | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223<br>6480<br>4600                                                                                                                            |      |
|     | benzoic acid 1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-trichlorophenol biphenyl acenaphthylene acenaphthene 4-nirophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene anthracene carbazole                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0<br>14.0<br>1041<br>64.0<br>23.0<br>94.0<br>1018<br>300<br>47.0                                                                                            | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300                                                                                                                                  | 2164<br>63.0<br>69.0<br>43.0<br>26.0<br>1063<br>77.0<br>21.0<br>65.0<br>905<br>321                                                                                                   | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210<br>186<br>6250<br>4100<br>693                                                                                                                 | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684                                                                                                                                  | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850<br>1850<br>6440<br>4240                                                                                                              | 564<br>661<br>316<br>356<br>268<br>15300<br>789<br>178<br>6560<br>4030                                                                                                                           | 709 743 324 508 272 114 14100 2190 159 6310 3980                                                                                                                                                     | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223<br>6480<br>4600<br>791                                                                                                                     |      |
|     | benzoic acid 1,2,4-richlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-mchlorophenol biphenyl acenaphthylene acenaphthylene acenaphthene 4-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene anthracene carrbazole caffeine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0<br>14.0<br>1041<br>64.0<br>23.0<br>94.0<br>1018<br>300<br>47.0<br>49.0<br>115                                                                             | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0                                                                                                                             | 2164<br>63.0<br>69.0<br>43.0<br>26.0<br>1063<br>77.0<br>21.0<br>65.0<br>905<br>321<br>49.0                                                                                           | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210<br>186<br>6250<br>4100<br>693                                                                                                                 | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684                                                                                                                                  | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850<br>1850<br>6440<br>4240<br>736                                                                                                       | 564<br>661<br>316<br>356<br>268<br>15300<br>789<br>178<br>6560<br>4030<br>672                                                                                                                    | 709 743 324 508 272 114 14100 2190 159 6310 3980 675                                                                                                                                                 | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223<br>6480<br>4600<br>791                                                                                                                     |      |
|     | benzoic acid  1,2,4-richlorobenzene naphthalene  2-methylnaphthalene  1-methylenaphthalene  2,4,6-richlorophenol  2,4,5-richlorophenol  biphenyl acenaphthylene acenaphthene  4-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene anthracene carbazole caffeine butylbenzylphthalate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0<br>14.0<br>1041<br>64.0<br>23.0<br>94.0<br>1018<br>300<br>47.0<br>49.0<br>115<br>710                                                                      | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0                                                                                                                             | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0                                                                                                                            | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210<br>186<br>6250<br>4100<br>693                                                                                                                 | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684                                                                                                                                  | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850<br>6440<br>4240<br>736                                                                                                               | 564<br>661<br>316<br>356<br>268<br>15300<br>789<br>178<br>6560<br>4030<br>672                                                                                                                    | 709 743 324 508 272 114 14100 2190 159 6310 3980 675                                                                                                                                                 | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223<br>6480<br>4600<br>791<br>1930<br>7340                                                                                                     |      |
|     | benzoic acid 1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-trichlorophenol biphenyl acenaphthylene acenaphthene 4-nitrophenol diethylphthalate fluorene hexachlorophenol phenanthrene anthracene carbazole caffeine caffeine bis(2-ethylhexyl)phthalate bis(2-ethylhexyl)phthalate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0<br>14.0<br>1041<br>64.0<br>23.0<br>94.0<br>1018<br>300<br>47.0<br>49.0<br>115<br>710<br>3778                                                              | 2119<br>54.0<br>57.0<br>30.0<br>25.0<br>24.0<br>935<br>52.0<br>21.0<br>64.0<br>913<br>300<br>50.0                                                                                         | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0                                                                                                                            | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210<br>186<br>6250<br>4100<br>693                                                                                                                 | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684                                                                                                                                  | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850<br>6440<br>4240<br>736                                                                                                               | 564<br>661<br>316<br>356<br>268<br>15300<br>789<br>178<br>6560<br>4030<br>672                                                                                                                    | 709 743 324 508 272 114 14100 2190 159 6310 3980 675                                                                                                                                                 | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223<br>6480<br>4600<br>791<br>1930<br>7340                                                                                                     |      |
|     | benzoic acid 1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-trichlorophenol biphenyl acenaphthylene acenaphthene 4-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phemanthrene anthracene carbazoie caffeine butylbenzylphthalate bity2-ethylnexylphthalate 5-C1,2-Hy-benzaldehyde                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0<br>14.0<br>1041<br>64.0<br>23.0<br>94.0<br>1018<br>300<br>47.0<br>49.0<br>115<br>710<br>3778<br>837                                                       | 2119<br>54.0<br>57.0<br>30.0<br>25.0<br>24.0<br>935<br>52.0<br>21.0<br>64.0<br>913<br>300<br>50.0                                                                                         | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0                                                                                                                            | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210<br>186<br>6250<br>4100<br>693<br>1870<br>7090<br>45500                                                                                        | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684                                                                                                                                  | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850<br>6440<br>4240<br>736                                                                                                               | 564<br>661<br>316<br>356<br>268<br>15300<br>789<br>178<br>6560<br>4030<br>672                                                                                                                    | 709 743 324 508 272 114 14100 2190 159 6310 3980 675                                                                                                                                                 | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223<br>6480<br>4600<br>791<br>1930<br>7340                                                                                                     |      |
|     | benzoic acid 1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-trichlorophenol biphenyl acenaphthylene acenaphthylene acenaphthylene de-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene anthracene carrbazole caffeine burylbenzylphthalate bis(2-ethylhexylphthalate bis(2-ethylhexylphthalate bis(2-ethylhexylphthalate bis(2-ethylhexylphthalate bis(2-ethylhexylphthalate bis(2-ethylhexylphthalate nonanoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2300 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837                                                                                                                      | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0                                                                                                                             | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0                                                                                                                            | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210<br>186<br>6250<br>4100<br>693<br>1870<br>7090<br>45500                                                                                        | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684                                                                                                                                  | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850<br>6440<br>4240<br>736                                                                                                               | 564<br>661<br>316<br>356<br>268<br>15300<br>789<br>178<br>6560<br>4030<br>672                                                                                                                    | 709 743 324 508 272 114 14100 2190 159 6310 3980 675                                                                                                                                                 | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223<br>6480<br>4600<br>791<br>1930<br>7340                                                                                                     |      |
|     | benzoic acid  1,2,4-richlorobenzene naphthalene  2-methylnaphthalene  1-methylenaphthalene  2,4,6-richlorophenol  2,4,5-richlorophenol  biphenyl acenaphthylene acenaphthene  4-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene anthracene carbazole caffeine butylbenzylphthalate bis(2-ethylkexyl)phthalate bis(2-ethylkexyl)phthalate 5-C1,2-Hy-benzaldehyde nonanore acid 1-methylisoquinoline                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2300 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837                                                                                                                      | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0                                                                                                                             | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373                                                                                                              | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210<br>186<br>6250<br>4100<br>693<br>1870<br>7090<br>45500                                                                                        | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684                                                                                                                                  | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850<br>6440<br>4240<br>736                                                                                                               | 564<br>661<br>316<br>356<br>268<br>15300<br>789<br>178<br>6560<br>4030<br>672                                                                                                                    | 709 743 324 508 272 114 14100 2190 159 6310 3980 675                                                                                                                                                 | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223<br>6480<br>4600<br>791<br>1930<br>7340                                                                                                     |      |
|     | benzoic acid 1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-trichlorophenol biphenyl acenaphthylene acenaphthene 4-nirophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene anthracene carbazoie caffeine biy/benzylphthalate bis(2-ethylnexylphthalate 5-C1,2-Hy-benzaidehyde nonanoe acid 1-methylisoquinoline tetradecanoic aerd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0<br>1041<br>64.0<br>23.0<br>94.0<br>1018<br>300<br>47.0<br>49.0<br>115<br>710<br>3778<br>837<br>483<br>943                                                 | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 3590 860                                                                                                                | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373                                                                                                              | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210<br>186<br>6250<br>4100<br>693<br>1870<br>7090<br>45500                                                                                        | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684<br>1710<br>7270<br>46000                                                                                                         | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850<br>6440<br>4240<br>736                                                                                                               | 564<br>661<br>316<br>356<br>268<br>15300<br>789<br>178<br>6560<br>4030<br>672                                                                                                                    | 709 743 324 508 272 114 14100 2190 159 6310 3980 675                                                                                                                                                 | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223<br>6480<br>4600<br>791<br>1930<br>7340<br>47400                                                                                            |      |
|     | benzoic acid 1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-trichlorophenol biphenyl acenaphthylene acenaphthylene acenaphthylene d-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene anthracene carrbazoic caffeine burylbenzylphthalate bis(2-ethylhexyl)phthalate 5-C1,2-Hy-benzaldehyde nonanore acid 1-methylisoquinoline tetradezanoic acid hexadecanoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 2300<br>26.0<br>56.0<br>62.0<br>32.0<br>244<br>132<br>24.0<br>34.0<br>14.0<br>1041<br>64.0<br>23.0<br>94.0<br>1018<br>300<br>47.0<br>49.0<br>115<br>710<br>3778<br>837<br>483<br>943<br>913<br>11011                         | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 3590 860                                                                                                                | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373                                                                                                              | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210<br>186<br>6250<br>4100<br>693<br>1870<br>7090<br>45500                                                                                        | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684<br>1710<br>7270<br>46000                                                                                                         | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850<br>6440<br>4240<br>736                                                                                                               | 564<br>661<br>316<br>356<br>268<br>15300<br>789<br>178<br>6560<br>4030<br>672<br>6680<br>43100                                                                                                   | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000 705000                                                                                                                               | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223<br>6480<br>4600<br>791<br>1930<br>7340<br>47400                                                                                            |      |
|     | benzoic acid  1,2,4-trichlorobenzene naphthalene  2-methylnaphthalene  2-4,6-trichlorophenol biphenyl acenaphthylene acenaphthylene acenaphthylene acenaphthylene acenaphthylene heatenphthene  4-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene anthracene carrbazole caffeine bitylethylphthalate bis(2-ethylhexyl)phthalate               | 2300 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 913 11011                                                                                                    | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 3590 860 995                                                                                                            | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373                                                                                                              | 1080<br>1210<br>403<br>625<br>322<br>15000<br>3210<br>186<br>6230<br>4100<br>693<br>1870<br>7090<br>45500<br>11400                                                                               | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684<br>1710<br>7270<br>46000                                                                                                         | 21600<br>577<br>662<br>313<br>415<br>300<br>86.2<br>15900<br>1850<br>6440<br>4240<br>736<br>7250<br>50300                                                                                              | 564<br>661<br>316<br>356<br>268<br>15300<br>789<br>178<br>6560<br>4030<br>672<br>6680<br>43100                                                                                                   | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000 245000 SRM 1649a                                                                                                                     | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223<br>6480<br>4600<br>791<br>1930<br>7340<br>47400                                                                                            |      |
|     | benzoic acid  1,2,4-trichlorobenzene naphthalene  2-methylnaphthalene  2-4,6-trichlorophenol biphenyl acenaphthylene acenaphthylene acenaphthylene acenaphthylene acenaphthylene heatenphthene  4-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene anthracene carrbazole caffeine bitylethylphthalate bis(2-ethylhexyl)phthalate               | 2300 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 913 11011 837                                                                                                | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 33590 860 995                                                                                                           | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373                                                                                                              | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 648000 Part. 1 Sample 1                                                                                          | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684<br>1710<br>7270<br>46000<br>211000<br>625000<br>Part. 1<br>Sample 2                                                              | 21600 577 662 313 415 300 86.2 15900 1850 6440 4240 736 7250 50300 237000 555000 Part. I Sample 3                                                                                                      | 564 661 316 356 268 15300 789 178 6560 4030 672 6680 43100 243000 SRM 1649a Sample 1                                                                                                             | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000 705000  SRM 1649a Sample 2                                                                                                   | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223<br>6480<br>4600<br>791<br>1930<br>7340<br>47400<br>293000<br>794000<br>SRM 1649a<br>Sample 3                                               |      |
|     | benzoic acid  1,2,4-trichlorobenzene naphthalene  2-methylnaphthalene  2-4,6-trichlorophenol biphenyl acenaphthylene acenaphthylene acenaphthylene acenaphthylene acenaphthylene heatenphthene  4-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene anthracene carrbazole caffeine bitylethylphthalate bis(2-ethylhexyl)phthalate               | 2300 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 913 11011 837 41780 Extract 1                                                                                | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 3590 860 995 9879 45173 Extract 1                                                                                       | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373 943 11538 45777 Extract 1                                                                                    | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 648000 Part. 1 Sample 1                                                                                          | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684<br>1710<br>7270<br>46000                                                                                                         | 21600 577 662 313 415 300 86.2 15900 1850 6440 4240 736 7250 50300 237000 555000 Part. I Sample 3                                                                                                      | 564 661 316 356 268 15300 789 178 6560 4030 672 6680 43100 243000 SRM 1649a Sample 1                                                                                                             | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000  705000  SRM 1649a Sample 2 (ny/g as received)                                                                               | 901<br>1010<br>361<br>732<br>300<br>15900<br>2650<br>223<br>6480<br>4600<br>791<br>1930<br>7340<br>47400<br>293000<br>794000<br>SRM 1649a<br>Sample 3<br>(ng/g as received)                         |      |
|     | benzoic acid  1,2,4-trichlorobenzene naphthalene  2-methylnaphthalene  1-methylenaphthalene  2,4,6-trichlorophenol  2,4,5-trichlorophenol  2,4,5-trichlorophenol  biphenyl acenaphthylene acenaphthene  4-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phemanthrene anthracene carbazole caffcine butylbenzylphthalate bis(2-ethylhexyl)phthalate 5-C1,2-Hy-benzaldehyde nonanoe acid 1-methylisoquinoline tetradecanoic acid hexadecanoic acid hexadecanoic acid hexadecanoic acid hexadecanoic acid hexadecanoic acid hexadecanoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2300 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 913 11011 837 41780 Extract 1 Sample 1                                                                       | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 3590 860 995 9879 45173 Extract I Sample 2                                                                              | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373 943 11538 45777 Extract 1 Sample 3                                                                           | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 648000 Part. 1 Sample 1                                                                                          | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684<br>1710<br>7270<br>46000<br>211000<br>625000<br>Part. 1<br>Sample 2                                                              | 21600  577 662 313  415 300 86.2 15900 1850 1850 6440 4240 736  7250 50300  237000 555000 Part. I Sample 3 (ng/g as received) 3410                                                                     | 564 661 316 356 268 15300 789 178 6560 4030 672 6680 43100 243000 SRM 1649a Sample 1 (ng/g as received) 2310                                                                                     | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000  SRM 1649a Sample 2 (ng/g as received) 2230                                                                                  | 901 1010 361  732 300 15900 2650 223 6480 4600 791 1930 7340 47400  293000 794000 SRM 1649a Sample 3 (ng/g as received) 2700                                                                        |      |
|     | benzoic acid 1,2,4-richlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-mchlorophenol biphenyl acenaphthylene acenaphthylene acenaphthylene acenaphthylene d-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene anthracene carrbazoie caffeine butylbenzylphthalate bis(2-ethylhexyl)phthalate bis(2-ethylhexyl)soquinoline tetradecanoic acid l-methylisoquinoline tetradecanoic acid l-s-naphthalic anhydride dichlorphen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2300 26.0 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 913 11011 837 41780 Extract 1 Sample 1 (mg/g)                                                           | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 3590 860 995 9879 45173 Extract 1 Sample 2 (ng/g)                                                                       | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373 943 11538 45777 Extract 1 Sample 3 (ng/g) 179 73.8                                                           | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 648000 Part 1 Sample 1 (ng/g as received) 1320                                                                   | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684<br>1710<br>7270<br>46000<br>211000<br>625000<br>Part. 1<br>Sample 2<br>0 (ng/g as received)<br>3210                              | 21600  577 662 313  415 300 86.2 15900 1850 1850 6440 4240 736  7250 50300  237000  555000  Part. 1 Sample 3 (ng/g as received) 3410 1210                                                              | 564 661 316 356 268 15300 789 178 6560 4030 672 6680 43100 243000 SRM 1649a Sample 1 (ng/g as received) 2310 959                                                                                 | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000  SRM 1649a Sample 2 (ŋg/g as received) 2230 1050                                                                             | 901 1010 361  732 300 15900 2650 223 6480 4600 791 1930 7340 47400  293000 794000 SRM 1649a Sample 3 (ng/g as received) 2700 1440                                                                   |      |
|     | benzoic acid 1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-trichlorophenol biphenyl acenaphthylene acenaphthene 4-nitrophenol diethylphthalate fluorene hexachlorophenol phenanthrene anthracene carbazole caffeine totalenenenenenenenenenenenenenenenenenenen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2300 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 913 11011 837 41780 Extract 1 Sample 1 (ng/g) 265                                                            | 2119  54.0 57.0 30.0  25.0 24.0  935 52.0 21.0 64.0 913 300 50.0  705 3590 860  995  9879  45173  Extract 1 Sample 2 (ng/g) 171 68.7 51.5                                                 | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373 943 11538 45777 Extract 1 Sample 3 (ng/g) 179 73.8 43.4                                                      | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 648000 Part. 1 Sample 1 (ng/g as received) 3240 1320 849                                                         | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684<br>1710<br>7270<br>46000<br>Part. 1<br>Sample 2<br>) (ng/g as received)<br>3210<br>1210<br>825                                   | 21600  577 662 313  415 300 86.2 15900 1850 6440 4240 736  7250 50300  237000 555000 Part. I Sample 3 (ng/g as received) 3410 1210 972                                                                 | 564 661 316 356 268 15300 789 178 6560 4030 672 6680 43100 243000 SRM 1649a Sample 1 (ng/g as received) 2310 959 876                                                                             | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000 705000 SRM 1649a Sample 2 (ng/g as received) 2230 1050 737                                                                   | 901 1010 361  732 300 15900 2650 223 6480 4600 791 1930 7340 47400  293000 794000 SRM 1649a Sample 3 (ng/g as received) 2700 1440 900                                                               |      |
|     | benzoic acid  1,2,4-trichlorobenzene naphthalene  2-methylnaphthalene  1-methylenaphthalene  2,4,6-trichlorophenol  2,4,5-trichlorophenol  2,4,5-trichlorophenol  biphenyl acenaphthene  4-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene anthracene carbazole caffeine bitylbenzylphthalate bis(2-ethylnexylphthalate 5-C1,2-Hy-benzaldehyde nonanor acid  1-methylisoquinoline tetradecanoic acid hexadecanoic acid n-C17 n-C18 n-C19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2300 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 913 11011 837 41780 Extract 1 Sample 1 (ng/g) 263 86.4                                                       | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 3590 860 995 9879 45173 Extract 1 Sample 2 (ng/g) 171 68.7                                                              | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373 943 11538 45777 Extract 1 Sample 3 (ng/g) 179 73.8                                                           | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 648000 Part 1 Sample 1 (ng/g as received) 1320                                                                   | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684<br>1710<br>7270<br>46000<br>211000<br>Part. 1<br>Sample 2<br>) (ng/g as received)<br>3210<br>1210<br>825<br>1040                 | 21600  577 662 313  415 300 86.2 15900 1850 1850 6440 4240 736  7250 50300  237000  555000 Part. 1 Sample 3 (ng/g as received) 3410 1210 972 792                                                       | 564 661 316 356 268 15300 789 178 6560 4030 672 6680 43100 243000 638000 SRM 1649a Sample 1 (ng/g as received) 2310 959 876 938                                                                  | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000  705000  SRM 1649a Sample 2 (ng/g as received) 2230 1050 7377                                                                | 901 1010 361  732 300 15900 2650 223 6480 4600 791 1930 7340 47400  293000 794000 SRM 1649a Sample 3 (ng/g as received) 2700 1440 900 992                                                           |      |
|     | benzoic acid  1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene 2-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-trichlorophenol biphenyl acenaphthylene acenaphthylene acenaphthylene acenaphthylene acenaphthene 4-nitrophenol diethylphthalate fluorene pentachlorophenol phenanthrene anthracene carbazole caffeine butylbenzylphthalate bis/2-ethylhezyllphthalate bis/2-e | 2300 26.0 56.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 913 11011 837 41780 Extract 1 Sample 1 (ng/g) 265 86.4                                                  | 2119  54.0 57.0 30.0  25.0 24.0  935 52.0 21.0 64.0 913 300 50.0  705 3590 860  995  9879  45173  Extract 1 Sample 2 (ng/g) 171 68.7 51.5                                                 | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373 943 11538 45777 Extract 1 Sample 3 (ng/g) 179 73.8 43.4                                                      | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 648000 Part. 1 Sample 1 (ng/g as received) 3240 1320 849                                                         | 600<br>20700<br>660<br>679<br>347<br>442<br>268<br>14000<br>1620<br>195<br>6390<br>4020<br>684<br>1710<br>7270<br>46000<br>211000<br>625000<br>Part. 1<br>Sample 2<br>(ng/g as received)<br>3210<br>1210<br>825<br>1040<br>1780 | 21600  577 662 313  415 300 86.2 15900 1850 1850 6440 4240 736  7250 50300  237000  555000  Part. I Sample 3 (ng/g as received) 3410 1210 972 792 2950                                                 | 564 661 316 356 268 15300 789 178 6560 4030 672 6680 43100 243000 SRM 1649a Sample 1 (ng/g as received) 2310 959 876 938 2630                                                                    | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000  SRM 1649a Sample 2 (n/g fas received) 2230 1050 737 1030 3070                                                               | 901 1010 361  732 300  15900 2650 223  6480 4660 791  1930 7340 47400  293000  794000  SRM 1649a Sample 3 (ng/g as received) 2700 1440 900 992 4420                                                 |      |
|     | benzoic acid 1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-trichlorophenol biphenyl acenaphthylene acenaphtylene acenaphtylene acenaphtylene acenaphtylene acenaphtylene acenaphtylene hexachlorophenol diethylphthalate duorene hexachlorophenol phenanthrene anthracene carbazole caffeine bis(2-ethylhexyl)phthalate bis(2-ethylhexyl)phthalate bis(2-ethylhexyl)phthalate bis(2-thylhexyl)phthalate bis(2-thylhexyl)phthalate bis(3-thylhexyl)phthalate bis(3-thyl | 2300 26.0 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 913 11011 837 41780 Extract 1 Sample 1 (ng/g) 263 86.4 64.3                                             | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 3590 860 995 9879 45173 Extract 1 Sample 2 (ng/g) 171 68.7 51.5 50.6 112                                                | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373 943 11538 45777 Extract 1 Sample 3 (nyg) 179 73.8 43.4 68.9 115 902                                          | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 648000 Part 1 Sample 1 (ng/g as received) 3240 1320 849 912 1950 36200                                           | 600 20700 660 679 347 442 268 14000 1620 195 6390 4020 684 1710 7270 46000  211000 625000 Part. 1 Sample 2 ) (ng/g as received) 3210 1210 825 1040 1780 31800                                                                   | 21600  577 662 313  415 300 86.2 15900 1850 1850 6440 4240 736  7250 50300  237000 555000 Part. I Sample 3 (ng/g as received) 3410 1210 972 792 2950 34700                                             | 564 661 316 356 268 15300 789 178 6560 4030 672 6680 43100  243000 SRM 1649a Sample 1 (ng/g as received) 2310 959 876 938 2630 38700                                                             | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000 705000 SRM 1649a Sample 2 (ng/g as received) 2230 1050 737 1030 3070 34500                                                   | 901 1010 361  732 300 15900 2650 223 6480 4600 791 1930 7340 47400  293000 794000 SRM 1649a Sample 3 (ng/g as received) 2700 1440 900 992 4420 49300                                                |      |
|     | benzoic acid  1.2,4-trichlorobenzene naphthalene  2-methylnaphthalene  2-methylenaphthalene  2-4,6-trichlorophenol  2,4,5-trichlorophenol  2,4,5-trichlorophenol  2,4,5-trichlorophenol  biphenyl acenaphthylene acenaphthene  4-nitrophenol diethylphthalate fluorene hexachlorophenol phenanthrene anthracene carbazole caffeine bis(2-ethylhexyl)phthalate bis(2-ethylhexyl)phthalate bis(2-ethylhexyl)phthalate bis(2-ethylhexyl)phthalate bis(3-trichylhexyl)phthalate bis(3-trichylhexyll)phthalate bis(3-t | 2300 26.0 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 3000 47.0 49.0 115 710 3778 837 483 943 913 11011 837 41780 Extract 1 Sample 1 (mg/g) 263 86.4 64.3 88.5                                       | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 3590 860 995 9879 45173 Extract 1 Sample 2 (ng/g) 171 68.7 51.5 50.6 112 854 4780                                       | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373 943 11538 45777 Extract 1 Sample 3 (ng/g) 179 73.8 43.4 68.9 115 902 4920                                    | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 648000 Part 1 Sample 1 (ng/g as received) 1320 849 912 1950 36200 84800                                          | 600 20700 660 679 347 442 268 14000 1620 195 6390 4020 684 1710 7270 46000 211000 625000 Part. 1 Sample 2 ) (ng/g as received) 3210 1210 825 1040 1780 31800 81100                                                              | 21600  577 662 313  415 300 86.2 15900 1850 1850 6440 4240 736  7250 50300  Part. I Sample 3 (ng/gs as received) 3410 1210 972 792 2950 34700 93800                                                    | 564 661 316 356 268 15300 789 178 6560 4030 672 6680 43100  243000 638000  SRM 1649a Sample 1 (ng/g as received) 2310 959 876 938 2630 38700 97800                                               | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000 705000 SRM 1649a 2230 1050 737 1030 3070 34500 92000                                                                         | 901 1010 361  732 300 15900 2650 223 6480 4600 791 1930 7340 47400  293000 794000 SRM 1649a Sample 3 (ng/g as received) 2700 1440 900 992 4420 49300 106000                                         |      |
|     | benzoic acid  1,2,4-richlorobenzene naphthalene  2-methylnaphthalene  1-methylenaphthalene  2,4,6-trichlorophenol  2,4,5-michlorophenol  biphenyl acenaphthylene acenaphthene  4-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phemanthrene anthracene carbazole caffeine butylbenzylphthalate bis(2-ethylhexyl)phthalate 5-C1,2-Hy-benzaldehyde nonanoe acid 1,8-naphthalic acid hexacklorobene n-C16 n-C17 n-C16 n-C17 n-C18 n-C21 n-C23 n-C23 n-C27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2300 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 913 11011 837 41780 Extract 1 Sample 1 (ng/g) 265 86.4 64.3 88.5 177 1150 6070 5850                          | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 3590 860 995 9879 45173 Extract 1 Sample 2 (ng/g) 171 68.7 51.5 50.6 112                                                | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373  943 11538 45777  Extract 1 Sample 3 (ng/g) 179 73.8 43.4 68.9 115 902 4920 4950                             | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 648000 Part I Sample I (ng/g as received) 3240 1320 849 912 1950 36200 84800 80700                               | 600 20700 660 679 347 442 268 14000 1620 195 6390 4020 684 1710 7270 46000  Part. 1 Sample 2 ) (ng/g as received) 3210 1210 825 1040 1780 31800 81100 78900                                                                     | 21600  577 662 313  415 300 86.2 15900 1850 1850 6440 4240 736  7250 50300  Part. I Sample 3 (ng/g as received) 3410 1210 972 792 2950 34700 93800 93100                                               | 564 661 316 336 268 15300 789 178 6560 4030 672 6680 43100  SRM 1649a Sample 1 (ng/g as received) 2310 2310 959 876 938 2630 38700 97800 988600                                                  | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000  SRM 1649a Sample 2 (ng/g as received) 2230 1050 737 1030 3070 34500 92000 93800                                             | 901 1010 361  732 300  15900 2650 223  6480 4600 791  1930 7340 47400  293000  794000  SRM 1649a Sample 3 (ng/g as received) 2700 1440 900 992 4420 49300 1066000 110000                            |      |
|     | benzoic acid 1,2,4-richlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-mchlorophenol biphenyl acenaphthylene acenaphthylene acenaphthylene acenaphthylene d-nitrophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene anthracene carbazoie caffeine butylbenzylphthalate bis(2-ethylhexyl)phthalate bis(2-ethylhexyl)shydhydd nonanor acid 1-methylisoquinoline tetradecanoic acid hexadecanoic acid hexadecanoic acid l.8-naphthalic anhydrid dichlorphen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2300 26.0 56.0 66.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 913 11011 837 41780 Extract 1 Sample 1 (ng/g) 26.3 86.4 64.3 88.5 177 1150 6670 5850 5770               | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 3590 860 995 9879 45173 Extract 1 Sample 2 (ng/g) 171 68.7 51.5 50.6 112 854 4780 4760 4860                             | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373 943 11538 45777 Extract 1 Sample 3 (ng/g) 179 73.8 43.4 68.9 115 902 4920 4950 4980                          | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 648000 Part 1 Sample 1 (ng/g as received) 3240 1320 849 912 1950 36200 84800 80700 79500                         | 600 20700 660 679 347 442 268 14000 1620 195 6390 4020 684 1710 7270 46000  211000 625000 Part. 1 Sample 2 ) (ng/g as received) 3210 1210 825 1040 1780 31800 81100 77800                                                       | 21600  577 662 313  415 300 86.2 15900 1850 1850 6440 4240 736  7250 50300  237000  555000 Part. I Sample 3 (ng/g as received) 3410 1210 972 792 2950 34700 93800 93100 93100                          | 564 661 316 356 268 15300 789 178 6560 4030 672 6680 43100  243000 SRM 1649a Sample 1 (ng/g as received) 2310 959 876 938 2630 38700 97800 88600 88600                                           | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000  SRM 1649a Sample 2 (ng/g as received) 2230 1050 737 1030 3070 34500 92000 93800 84900                                       | 901 1010 361  732 300 15900 2650 223 6480 4600 791 1930 7340 47400  293000  794000 SRM 1649a Sample 3 (ng/g as received) 2700 1440 900 992 4420 49300 106000 1100000 95400                          |      |
|     | benzoic acid 1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-trichlorophenol 2,4,5-trichlorophenol biphenyl acenaphtylene acenaphtylene acenaphtylene diethylphthalate fluorene hexachlorophenol phenanthrene anthracene carbazole caffeine biylbenzylphthalate bis(2-ethylhexyl)phthalate bis(2- | 2300 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 913 11011 837 41780 Extract 1 Sample 1 (ng/g) 265 86.4 64.3 88.5 177 1150 6070 5850                          | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 3590 860 995 9879 45173 Extract 1 Sample 2 (ng/g) 171 68.7 51.5 50.6 112 854 4780 4760 4860 2880                        | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373 943 11538 45777 Extract 1 Sample 3 (ng/g) 179 73.8 43.4 68.9 115 902 4920 4950 4980 2870                     | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 648000 Part. 1 Sample 1 (ng/g as received) 3240 1320 849 912 1950 36200 84800 80700 79500 52300                  | 600 20700 660 679 347 442 268 14000 1620 195 6390 4020 684 1710 7270 46000 Part. 1 Sample 2 ) (ng/g as received) 3210 1210 825 1040 1780 31800 81100 77800 48400                                                                | 21600  577 662 313  415 300 86.2 15900 1850 6440 4240 736  7250 50300  Part. I Sample 3 (ng/g as received) 3410 1210 972 792 2950 34700 93800 93100 91600 559000                                       | 564 661 316 356 268 15300 789 178 6560 4030 672 6680 43100  243000 SRM 1649a Sample 1 (ng/g as received) 2310 959 876 938 2630 38700 97800 88600 88600 86200 61400                               | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000  245000  705000  SRM 1649a Sample 2 (ng/g as received) 2230 1050 737 1030 3070 34500 92000 93800 84900 59800                 | 901 1010 361  732 300 15900 2650 223 6480 4600 791 1930 7340 47400  SRM 1649a Sample 3 (ng/g as received) 2700 1440 900 992 4420 49300 106000 110000 95400 66000                                    |      |
|     | benzoic acid  1,2,4-trichlorobenzene naphthalene  2-methylnaphthalene  1-methylenaphthalene  2,4,6-trichlorophenol  2,4,5-trichlorophenol  2,4,5-trichlorophenol  2,4,5-trichlorophenol  biphenyl acenaphthene  4-nirophenol diethylphthalate fluorene hexachlorobenzene pentachlorophenol phenanthrene anthracene carbazole cafficine burylbenzylphthalate bis(2-ethylhexylphthalate 5-C1,2-Hy-benzaldehyde nonanore acid 1-methylisoquinoline tetradecanoic acid hexadecanoic acid 1,8-naphthalic anhydrid dichlorphen  n-C16 n-C17 n-C18 n-C19 n-C21 n-C23 n-C27 n-C29 n-C27 n-C29 n-C21 n-C31 n-C33                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2300 26.0 56.0 66.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 913 11011 837 41780 Extract 1 Sample 1 (ng/g) 26.3 86.4 64.3 88.5 177 1150 6670 5850 5770               | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 3590 860 995 9879 45173 Extract 1 Sample 2 (ng/g) 171 68.7 51.5 50.6 112 854 4780 4760 4860                             | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373 943 11538 45777 Extract 1 Sample 3 (ng/g) 179 73.8 43.4 68.9 115 902 4920 4950 4980                          | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 648000 Part 1 Sample 1 (ng/g as received) 3240 1320 849 912 1950 36200 84800 80700 79500                         | 600 20700 660 679 347 442 268 14000 1620 195 6390 4020 684 1710 7270 46000  211000 625000 Part. 1 Sample 2 ) (ng/g as received) 3210 1210 825 1040 1780 31800 81100 77800                                                       | 21600  577 662 313  415 300 86.2 15900 1850 1850 1850 6440 4240 736  7250 50300  Part. 1 Sample 3 (ng/g as received) 3410 1210 972 792 2950 34700 93800 93100 91600 599000 27200                       | 564 661 316 356 268 15300 789 178 6560 4030 672 6680 43100  243000 SRM 1649a Sample 1 (ng/g as received) 2310 959 876 938 2630 38700 97800 88600 88600 88600 61400 22200                         | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000  SRM 1649a Sample 2 (ng/g as received) 2230 1050 737 1030 3070 34500 92000 93800 84900 59800 23700                           | 901 1010 361  732 300 15900 2650 223 6480 4600 791 1930 7340 47400  SRM 1649a Sample 3 (ng/g as received) 2700 1440 900 992 4420 49300 1066000 110000 95400 660000 27100                            |      |
|     | benzoic acid  1,2,4-trichlorobenzene naphthalene  2-methylnaphthalene  2-4,6-trichlorophenol  2,4,6-trichlorophenol  2,4,5-trichlorophenol  biphenyl acenaphthylene acenaphthylene acenaphthylene acenaphthylene acenaphthylene heachlorophenol diethylphthalate fluorene pentachlorophenol phenanthrene anthracene carbazole caffeine butylbenzylphthalate bis(2-ethylhexyl)phthalate bis(2-ethylhexyl)phthala | 2300 26.0 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 913 11011 837 41780 Extract 1 Sample 1 (ng/g) 263 86.4 66.3 88.5 177 1150 6070 5850 5770 3730           | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 3590 860 995 9879 45173 Extract 1 Sample 2 (ng/g) 171 68.7 51.5 50.6 112 854 4780 4760 4860 2880 1290 1350              | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373 943 11538 45777 Extract 1 Sample 3 (ng/g) 179 73.8 43.4 68.9 115 902 4920 4950 4980 2870 1290 1270           | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 Part. 1 Sample 1 (ng/g as received) 1320 849 912 1950 36200 84800 80700 79500 52300 22400 20100                  | 600 20700 660 679 347 442 268 14000 1620 195 6390 4020 684 1710 7270 46000  Part. 1 Sample 2 10/10/g as received) 3210 825 1040 1780 31800 81100 77800 48400 22900 19500                                                        | 21600  577 662 313 415 300 86.2 15900 1850 1850 6440 4240 736  7250 50300  Part. I Sample 3 (ng/g as received) 3410 1210 972 792 2950 34700 93800 93100 91600 59000 27200 22500                        | 564 661 316 356 268 15300 789 178 6560 4030 672 6680 43100 243000 SRM 1649a Sample 1 (ng/g as received) 2310 959 876 938 2630 38700 97800 88600 86200 61400 22200 61400 22200                    | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000  SRM 1649a Sample 2 (n/g/ga sreceived) 2230 1050 737 1030 3070 34500 92000 93800 84900 59800 23700 18600                     | 901 1010 361  732 300  15900 2650 223  6480 4600 791  1930 7340 47400  293000  794000  SRM 1649a Sample 3 (ng/g as received) 2700 1440 900 992 4420 49300 106000 110000 95400 66000 27100 20500     |      |
|     | benzoic acid 1,2,4-trichlorobenzene naphthalene 2-methylnaphthalene 1-methylenaphthalene 2,4,6-trichlorophenol 2,4,5-trichlorophenol biphenyl acenaphtylene acenaphtylene acenaphtylene dethylphthalate fluorene hexachlorophenol phenanthrene anthracene earbazole caffeine totale bis(2-ethylhexyl)phthalate bis(2-ethylhexyl)phthalate bis(2-ethylhexyl)phthalate bis(2-ethylhexyl)phthalate bis(3-ethylhexyl)phthalate bis(3-ethylhexy | 2300 26.0 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 913 11011 837 41780 Extract 1 Sample 1 (mg/g) 263 86.4 64.3 88.5 177 1150 6070 5850 5770 3730 1610 1610 | 2119  54.0 57.0 30.0  25.0 24.0  935 52.0 21.0 64.0 913 300 50.0  705 3590 860  995  9879  45173  Extract 1 Sample 2 (ng/g) 171 68.7 51.5 50.6 112 854 4780 4760 4860 2880 1290 1350 1120 | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373 943 11538 45777 Extract 1 Sample 3 (ng/g) 179 73.8 43.4 68.9 115 902 4920 4950 4950 4980 2870 1290 1270 1230 | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 648000 Part 1 Sample 1 (ng/g as received) 3240 1320 849 912 1950 36200 84800 80700 79500 52300 22400 20100 21100 | 600 20700 660 679 347 442 268 14000 1620 195 6390 4020 684 1710 7270 46000  Part. 1 Sample 2 ) (ng/g as received) 3210 1210 825 1040 1780 31800 81100 78900 77800 48400 22900 17500                                             | 21600  577 662 313  415 300 86.2 15900 1850 1850 6440 4240 736  7250 50300  237000  555000 Part. I Sample 3 (ng/g as received) 3410 1210 972 792 2950 34700 93800 93100 91600 599000 27200 22500 22200 | 564 661 316 356 268 15300 789 178 6560 4030 672 6680 43100  243000 SRM 1649a Sample 1 (ng/g as received) 2310 959 876 938 2630 38700 97800 88600 88600 88600 88600 86200 61400 22200 12700 15800 | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000  245000 705000 SRM 1649a Sample 2 (ng/g as received) 2230 1050 737 1030 3070 34500 92000 93800 84900 59800 23700 18600 14800 | 901 1010 361  732 300  15900 2650 223  6480 4600 791  1930 7340 47400  293000 794000 SRM 1649a Sample 3 (ng/g as received) 2700 1440 900 992 4420 49300 106000 110000 95400 66000 27100 20500 17100 |      |
|     | benzoic acid  1,2,4-trichlorobenzene naphthalene  2-methylnaphthalene  2-4,6-trichlorophenol  2,4,6-trichlorophenol  2,4,5-trichlorophenol  biphenyl acenaphthylene acenaphthylene acenaphthylene acenaphthylene acenaphthylene heachlorophenol diethylphthalate fluorene pentachlorophenol phenanthrene anthracene carbazole caffeine butylbenzylphthalate bis(2-ethylhexyl)phthalate bis(2-ethylhexyl)phthala | 2300 26.0 26.0 56.0 62.0 32.0 244 132 24.0 34.0 14.0 1041 64.0 23.0 94.0 1018 300 47.0 49.0 115 710 3778 837 483 943 11011 837 41780 Extract 1 Sample 1 (ng/g) 263 86.4 66.3 88.5 177 1150 6070 5850 5770 3730 1610          | 2119 54.0 57.0 30.0 25.0 24.0 935 52.0 21.0 64.0 913 300 50.0 705 3590 860 995 9879 45173 Extract 1 Sample 2 (ng/g) 171 68.7 51.5 50.6 112 854 4780 4760 4860 2880 1290 1350              | 2164 63.0 69.0 43.0 26.0 1063 77.0 21.0 65.0 905 321 49.0 735 4072 1373 943 11538 45777 Extract 1 Sample 3 (ng/g) 179 73.8 43.4 68.9 115 902 4920 4950 4980 2870 1290 1270           | 1080 1210 403 625 322 15000 3210 186 6250 4100 693 1870 7090 45500 11400 219000 Part. 1 Sample 1 (ng/g as received) 1320 849 912 1950 36200 84800 80700 79500 52300 22400 20100                  | 600 20700 660 679 347 442 268 14000 1620 195 6390 4020 684 1710 7270 46000  Part. 1 Sample 2 10/10/g as received) 3210 825 1040 1780 31800 81100 77800 48400 22900 19500                                                        | 21600  577 662 313 415 300 86.2 15900 1850 1850 6440 4240 736  7250 50300  Part. I Sample 3 (ng/g as received) 3410 1210 972 792 2950 34700 93800 93100 91600 59000 27200 22500                        | 564 661 316 356 268 15300 789 178 6560 4030 672 6680 43100 243000 SRM 1649a Sample 1 (ng/g as received) 2310 959 876 938 2630 38700 97800 88600 86200 61400 22200 61400 22200                    | 709 743 324 508 272 114 14100 2190 159 6310 3980 675 6730 42000  245000  SRM 1649a Sample 2 (n/g/ga sreceived) 2230 1050 737 1030 3070 34500 92000 93800 84900 59800 23700 18600                     | 901 1010 361  732 300  15900 2650 223  6480 4600 791  1930 7340 47400  293000  794000  SRM 1649a Sample 3 (ng/g as received) 2700 1440 900 992 4420 49300 106000 110000 95400 66000 27100 20500     |      |

| 9 Other p                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | zothio phenois analyzed:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 42.2                                                                                                                                                                                          | 22.5<br>No 1                                                                                                                                                                                                                                                                                                     | 30.6<br>Data reported for the                                                                                                                                                                                                                                 | 169<br>hese                                                                                                                                                                                                       | 181                                                                                                                                                                                                                                | 208                                                                                                                                                                                                                                                                               | 156                                                                                                                                                                                                            | 192                                                                                                                                                                                                                                                                       | 188                                                                                                                                                                                                                                                                                                                                                                                         |
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                                                                     | pnenois analyzeu.<br>pyl-guaiacol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| Vanillii                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| 17a(H                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| 225-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| C2720                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| C2720<br>C2720                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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| C2720<br>C2720<br>C2720<br>C2920<br>C2920                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| C2720<br>C2720<br>C2720<br>C2920<br>C2920<br>C2921                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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                                                               | 1560<br>2590                                                                                                                                                                                                                                                                                                                                                                                |
| C2720<br>C2720<br>C2720<br>C2920<br>C2920<br>C2921                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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                                                                                  | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and                                                                                                                                                                               | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace                                                                                                                                                                                                                                      | 1610<br>2240<br>2110<br>ne; quantified as on                                                                                                                                                                   | 1340<br>2470<br>2100                                                                                                                                                                                                                                                      | 1560<br>2590<br>1490                                                                                                                                                                                                                                                                                                                                                                        |
| C2720<br>C2720<br>C2720<br>C2920<br>C2920<br>C2921                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 20R-13b(H), 17a(H)-diasterane 20S-5a(H), 14b(H), 17b(H)-cholestane 20S-13b(H), 17a(H)-diasterane + C2720R- 20R-5a(H), 14b(H), 17b(H)-stigmastane 20R-5a(H), 14a(H), 17a(H)-stigmastane ction Limit = 40ng/g for all data sets                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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                                                                                  | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and<br>Part. 1                                                                                                                                                                    | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. I                                                                                                                                                                                                                           | 1610<br>2240<br>2110<br>ne; quantified as on<br>SRM 1649a                                                                                                                                                      | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a                                                                                                                                                                                                                              | 1560<br>2590<br>1490<br>SRM 164                                                                                                                                                                                                                                                                                                                                                             |
| C2720<br>C2720<br>C2720<br>C2920<br>C2920<br>C2921                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 20R-13b(H), 17a(H)-diasterane 20S-5a(H), 14b(H), 17b(H)-cholestane 20S-13b(H), 17a(H)-diasterane + C2720R- 20R-5a(H), 14b(H), 17b(H)-stigmastane 20R-5a(H), 14a(H), 17a(H)-stigmastane ction Limit = 40ng/g for all data sets                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 93.8<br>68.3<br>149<br>137<br>ne; benzo(b)fluoran<br>Extract 1<br>Sample I                                                                                                                    | 33.7<br>117<br>57.6<br>115<br>102<br>suhene, benzo(j)fluo<br>Extract I<br>Sample 2                                                                                                                                                                                                                               | 87.6<br>80.4<br>168<br>149<br>ranthene, and benz<br>Extract 1<br>Sample 3                                                                                                                                                                                     | 1640<br>1350<br>2080<br>1710<br>20(j)fluoranthene; dibe<br>Part. 1<br>Sample I                                                                                                                                    | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and<br>Part. 1<br>Sample 2                                                                                                                                                        | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. 1<br>Sample 3                                                                                                                                                                                                               | 1610<br>2240<br>2110<br>ne; quantified as on<br>SRM 1649a<br>Sample I                                                                                                                                          | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2                                                                                                                                                                                                                  | 1560<br>2590<br>1490<br>SRM 164<br>Sample                                                                                                                                                                                                                                                                                                                                                   |
| C2720<br>C2720<br>C2720<br>C2920<br>C2920<br>C2920<br>T2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-13b(H),17a(H)-diasterane + C2720R- 20R-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane cition Limit = 40ng/g for all data sets lution Compounds: chrysene and triphenyler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 93.8<br>68.3<br>149<br>137<br>ne; benzo(b)fluoran<br>Extract 1<br>Sample I<br>(ng/g)                                                                                                          | 33.7<br>117<br>57.6<br>115<br>102<br>whene, benzo(j)fluo<br>Extract I<br>Sample 2<br>(ng/g)                                                                                                                                                                                                                      | 87.6<br>80.4<br>168<br>149<br>ranthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)                                                                                                                                                                           | 1640<br>1350<br>2080<br>1710<br>co(j)fluoranthene; dibe<br>Part. I<br>Sample I<br>(ng/g as received)                                                                                                              | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and<br>Part. 1<br>Sample 2<br>(ng/g as received)                                                                                                                                  | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. I<br>Sample 3<br>(ng/g as received)                                                                                                                                                                                         | 1610<br>2240<br>2110<br>ne; quantifiied as on<br>SRM 1649a<br>Sample I<br>(ng/g as received)                                                                                                                   | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)                                                                                                                                                                                            | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece                                                                                                                                                                                                                                                                                                                                  |
| C2726<br>C2726<br>C2726<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14b(H), 17b(H)-cholestane 20S-5a(H),14b(H), 17b(H)-cholestane 20S-5a(H),14b(H), 17b(H)-stigmastane 20R-5a(H),14b(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane cition Limit = 40ng/g for all data sets ution Compounds: chrysene and triphenyler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 93.8<br>68.3<br>149<br>137<br>ne; benzo(b)fluoran<br>Extract I<br>Sample I<br>(ng/g)<br>337                                                                                                   | 33.7<br>117<br>57.6<br>115<br>102<br>                                                                                                                                                                                                                                                                            | 87.6<br>80.4<br>168<br>149<br>ranthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378                                                                                                                                                                    | 1640<br>1350<br>2080<br>1710<br>to(j)fluoranthene; dibe<br>Part. I<br>Sample I<br>(ng/g as received)<br>3510                                                                                                      | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and<br>Part. 1<br>Sample 2<br>(ng/g as received)<br>4490                                                                                                                          | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. I<br>Sample 3<br>(ng/g as received)<br>4860                                                                                                                                                                                 | 1610<br>2240<br>2110<br>ne; quantified as on<br>SRM 1649a<br>Sample I<br>(ng/g as received)<br>5590                                                                                                            | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840                                                                                                                                                                                    | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800                                                                                                                                                                                                                                                                                                                          |
| C2720<br>C2720<br>C2720<br>C2920<br>C2920<br>C2920<br>12 Detec<br>Coefu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14b(H), 17b(H)-cholestane 20S-13b(H),17a(H)-diasterane + C2720R- 20R-5a(H),14b(H), 17b(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane ction Limit = 40mg/g for all data sets fulion Compounds: chrysene and triphenyler methylnaphthalene methylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 93.8<br>68.3<br>149<br>137<br>ne; benzo(b)fluoran<br>Extract 1<br>Sample 1<br>(ng/g)<br>337<br>158                                                                                            | 33.7<br>117<br>57.6<br>115<br>102<br>tutene, benzo(j)fluo<br>Extract I<br>Sample 2<br>(ng/g)<br>317                                                                                                                                                                                                              | 87.6<br>80.4<br>168<br>149<br>ranthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180                                                                                                                                                             | 1640<br>1350<br>2080<br>1710<br>to(j)fluoranthene; dibe<br>Part. 1<br>Sample 1<br>(ng/g as received)<br>3510<br>1780                                                                                              | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and<br>Part. 1<br>Sample 2<br>(ng/g as received)<br>4490<br>2260                                                                                                                  | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570                                                                                                                                                                         | 1610<br>2240<br>2110<br>ne; quantifiied as on<br>SRM 1649a<br>Sample I<br>(ng/g as received)<br>5590<br>2920                                                                                                   | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380                                                                                                                                                                            | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2860                                                                                                                                                                                                                                                                                                                  |
| C2720<br>C2720<br>C2720<br>C2920<br>C2920<br>C2920<br>12 Detec<br>Coefu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14b(H), 17b(H)-cholestane 20S-5a(H),14b(H), 17b(H)-cholestane 20S-5a(H),14b(H), 17b(H)-stigmastane 20R-5a(H),14b(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane cition Limit = 40ng/g for all data sets ution Compounds: chrysene and triphenyler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 93.8<br>68.3<br>149<br>137<br>ne; benzo(b)fluoran<br>Extract 1<br>Sample 1<br>(ng/g)<br>337<br>158<br>202                                                                                     | 33.7<br>117<br>57.6<br>115<br>102<br>whene, benzo(j)fluo<br>Extract I<br>Sample 2<br>(ng/g)<br>317<br>147<br>166                                                                                                                                                                                                 | 87.6<br>80.4<br>168<br>149<br>ranthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180                                                                                                                                                             | 1640<br>1350<br>2080<br>1710<br>20(j)fluoranthene; dibe<br>Part. I<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709                                                                                       | 1410<br>1090<br>2250<br>2040<br>2040<br>nz(ah)anthracene and<br>Part. 1<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901                                                                                                   | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625                                                                                                                                                                  | ne; quantified as or<br>SRM 1649a<br>Sample 1<br>(ng/g as received)<br>5590<br>2920                                                                                                                            | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925                                                                                                                                                                     | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2860<br>510                                                                                                                                                                                                                                                                                                           |
| C2720<br>C2720<br>C2720<br>C2920<br>C2920<br>C2920<br>T2 Detec<br>Coefu<br>2-mm<br>1-mm<br>Biph                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14b(H), 17b(H)-cholestane 20S-13b(H),17a(H)-diasterane + C2720R- 20R-5a(H),14b(H), 17b(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane ction Limit = 40mg/g for all data sets fulion Compounds: chrysene and triphenyler methylnaphthalene methylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 93.8<br>68.3<br>149<br>137<br>ne; benzo(b)fluoran<br>Extract 1<br>Sample 1<br>(ng/g)<br>337<br>158                                                                                            | 33.7<br>117<br>57.6<br>115<br>102<br>tutene, benzo(j)fluo<br>Extract I<br>Sample 2<br>(ng/g)<br>317                                                                                                                                                                                                              | 87.6<br>80.4<br>168<br>149<br>ranthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180                                                                                                                                                             | 1640<br>1350<br>2080<br>1710<br>to(j)fluoranthene; dibe<br>Part. 1<br>Sample 1<br>(ng/g as received)<br>3510<br>1780                                                                                              | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and<br>Part. 1<br>Sample 2<br>(ng/g as received)<br>4490<br>2260                                                                                                                  | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570                                                                                                                                                                         | 1610<br>2240<br>2110<br>ne; quantified as or<br>SRM 1649a<br>Sample 1<br>(ng/g as received)<br>5590<br>2920<br>940<br>611                                                                                      | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925                                                                                                                                                                     | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2860<br>510<br>613                                                                                                                                                                                                                                                                                                    |
| C2726<br>C2726<br>C2726<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926     | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14b(H), 17b(H)-cholestane 20S-13b(H),17a(H)-diasterane + C2720R- 20R-5a(H),14b(H), 17b(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane ction Limit = 40ng/g for all data sets fution Compounds: chrysene and triphenyler methylnaphthalene methylnaphthalene shenyl                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 93.8<br>68.3<br>149<br>137<br>ne; benzo(b)fluoran<br>Extract 1<br>Sample 1<br>(ng/g)<br>337<br>158<br>202                                                                                     | 33.7<br>117<br>57.6<br>115<br>102<br>whene, benzo(j)fluo<br>Extract I<br>Sample 2<br>(ng/g)<br>317<br>147<br>166                                                                                                                                                                                                 | 87.6<br>80.4<br>168<br>149<br>ranthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180                                                                                                                                                             | 1640<br>1350<br>2080<br>1710<br>20(j)fluoranthene; dibe<br>Part. I<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709                                                                                       | 1410<br>1090<br>2250<br>2040<br>2040<br>nz(ah)anthracene and<br>Part. 1<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901                                                                                                   | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625                                                                                                                                                                  | ne; quantified as or<br>SRM 1649a<br>Sample 1<br>(ng/g as received)<br>5590<br>2920                                                                                                                            | 1340<br>2470<br>2100<br>2100<br>te peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446                                                                                                                                               | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2860<br>510<br>613<br>485                                                                                                                                                                                                                                                                                             |
| C2720<br>C2720<br>C7720<br>C2920<br>C2920<br>C2920<br>C2920<br>C2920<br>C2920<br>C2920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C3920<br>C300<br>C300<br>C300<br>C300<br>C300<br>C300<br>C300<br>C3                                                                                                                                    | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane cition Limit = 40ng/g for all data sets lution Compounds: chrysene and triphenyler methylnaphthalene methylnaphthalene ohenyl dethyllaphthalyl                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 93.8<br>68.3<br>149<br>137<br>ne; benzo(b)fluoran<br>Extract 1<br>Sample 1<br>(ng/g)<br>337<br>158<br>202<br>12.2                                                                             | 33.7<br>117<br>57.6<br>115<br>102<br>thene, benzo(j)fluo<br>Extract I<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40                                                                                                                                                                                         | 87.6<br>80.4<br>168<br>149<br>ranthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9                                                                                                                                               | 1640<br>1350<br>2080<br>1710<br>20(j)fluoranthene; dibe<br>Part. 1<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709<br>481                                                                                | 1410<br>1090<br>2250<br>2040<br>nnz(ah)anthracene and<br>Part. 1<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901<br>592                                                                                                   | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. I<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476                                                                                                                                                           | 1610<br>2240<br>2110<br>ne; quantified as or<br>SRM 1649a<br>Sample 1<br>(ng/g as received)<br>5590<br>2920<br>940<br>611                                                                                      | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925                                                                                                                                                                     | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2860<br>510<br>613                                                                                                                                                                                                                                                                                                    |
| C2726 C2726 C2726 C2926 C2926 C2926 C2927 C2928 12 Detec Coefu  1-m Bipt 2-M 1-2-1 1.3+                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14b(H), 17b(H)-cholestane 20S-13b(H),17a(H)-diasterane + C2720R- 20R-5a(H),14b(H), 17b(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane ction Limit = 40ng/g for all data sets fution Compounds: chrysene and triphenyler anethylnaphthalene nethylnaphthalene nethylnaphthalene shenyl dethyllaphthalene 11.6+1,7dimethylnaphth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 93.8<br>68.3<br>149<br>137<br>ne; benzo(b)fluoran<br>Extract I<br>Sample I<br>(ng/g)<br>337<br>158<br>202<br>12.2<br>43.8<br>89.3                                                             | 33.7<br>117<br>57.6<br>115<br>102<br>uthene, benza(j)fluo<br>Extract 1<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7                                                                                                                                                                                | 87.6<br>80.4<br>168<br>149<br>ranthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0                                                                                                                                       | 1640<br>1350<br>2080<br>1710<br>20(j)fluoranthene; dibe<br>Part. 1<br>Sample 1<br>(ng/g as received)<br>3510<br>1780<br>709<br>481<br>359                                                                         | 1410<br>1090<br>2250<br>2040<br>mz(ah)anthracene and<br>Part. 1<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901<br>592<br>466                                                                                             | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464                                                                                                                                                    | 1610<br>2240<br>2110<br>ne; quantifiied as on<br>SRM 1649a<br>Sample I<br>(ng/g as received)<br>5590<br>2920<br>940<br>611<br>453                                                                              | 1340<br>2470<br>2100<br>2100<br>te peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446                                                                                                                                               | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2860<br>510<br>613<br>485                                                                                                                                                                                                                                                                                             |
| C2726<br>C2774<br>C2726<br>C2906<br>C2907<br>C2912<br>12 Detec<br>Coefu<br>2-m<br>1-m<br>Bipti<br>2-M<br>1+2<br>1-3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14b(H), 17b(H)-cholestane 20S-5a(H),14b(H), 17b(H)-diasterane + C2720R- 20R-5a(H),14b(H), 17b(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane ction Limit = 40ng/g for all data sets fution Compounds: chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and 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the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler the chrysene and triphenyler th | 93.8<br>68.3<br>149<br>137<br>ne; benzo(b)fluoran<br>Extract 1<br>Sample 1<br>(ng/g)<br>337<br>158<br>202<br>12.2<br>43.8<br>89.3                                                             | 33.7<br>117<br>57.6<br>115<br>102<br>whene, benzo(j)fluo<br>Extract I<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1                                                                                                                                                                         | 87.6<br>80.4<br>168<br>149<br>ranthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9                                                                                                                               | 1640<br>1350<br>2080<br>1710<br>20(j)fluoranthene; dibe<br>Part. 1<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709<br>481<br>359<br>686<br>756                                                           | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and<br>Part. 1<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901<br>592<br>466<br>768<br>835                                                                               | 1810<br>2520<br>2630<br>d dibenz(ae)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881                                                                                                                                      | 1610<br>2240<br>2110<br>2110<br>ne; quantifiied as on<br>SRM 1649a<br>Sample I<br>(ng/g as received)<br>5590<br>2920<br>940<br>611<br>453<br>783                                                               | 1340<br>2470<br>2100<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802                                                                                                                                        | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2860<br>510<br>613<br>485<br>829                                                                                                                                                                                                                                                                                      |
| C2726<br>C2726<br>C2726<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926     | 10R-13b(H),17a(H)-diasterane 10S-5a(H),14k(H), 17b(H)-cholestane 10S-5a(H),14k(H), 17b(H)-diasterane + C2720R- 10R-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane 20R-5a(H),14a(H),15tigmastane 20R-5a(H),14a(H),15tigmastane 20R-5a(H),14a(H),15tigmastane 20R-5a(H),14a(H),17a(H)-stigmastane 20R-5a(H),14a(H),14a(H),14a(H),14a(H),14a(H) 20R-5a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H),14a(H), | 93.8<br>68.3<br>149<br>137<br>ne; benzo(b)fluoran<br>Extract 1<br>Sample 1<br>(ng/g)<br>337<br>158<br>202<br>12.2<br>43.8<br>89.3<br>103<br>281                                               | 33.7<br>117<br>57.6<br>115<br>102<br>uthene, benzo(j)fluo<br>Extract 1<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291                                                                                                                                                          | 87.6<br>80.4<br>168<br>149<br>ranthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282                                                                                                                 | 1640<br>1350<br>2080<br>1710<br>20(j)fluoranthene; dibe<br>Part. 1<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709<br>481<br>359<br>686<br>756<br>493                                                    | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and<br>Part. 1<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901<br>592<br>466<br>768<br>835<br>596                                                                        | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621                                                                                                                               | 1610<br>2240<br>2110<br>me: quantifiied as on<br>SRM 1649a<br>Sample 1<br>(ng/g as received)<br>5590<br>2920<br>940<br>611<br>453<br>783<br>827<br>590                                                         | 1340<br>2470<br>2100<br>he peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643                                                                                                                                  | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rect<br>5800<br>2860<br>510<br>613<br>485<br>829<br>966<br>694                                                                                                                                                                                                                                                                        |
| C2726 C2726 C2726 C2926 C2926 C2926 C2926 C2926 C2927 12 Detec Coefu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-5a(H),14k(H), 17b(H)-diasterane + C2720R- 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane ction Limit = 40mg/g for all data sets ution Compounds: chrysene and triphenyler methylnaphthalene nethylnaphthalene hethylinaphthalene +1,6+1.7dimethylnaphth +2,7-dimethylnaphth +2,7-dimethylnaphth enaphthylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 93.8<br>68.3<br>149<br>137<br>ne; benzo(b)fluoran<br>Extract I<br>Sample I<br>(mg/g)<br>337<br>158<br>202<br>12.2<br>43.8<br>89.3<br>103<br>281<br>84.7                                       | 33.7<br>117<br>57.6<br>115<br>102<br>uthene, benzo(j)fluo<br>Extract 1<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291                                                                                                                                                          | 87.6<br>80.4<br>168<br>149<br>Farnthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282                                                                                                                | 1640<br>1350<br>2080<br>1710<br>20(j)fluoranthene; dibe<br>Part. I<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709<br>481<br>359<br>686<br>756<br>493<br>705                                             | 1410<br>1090<br>2250<br>2040<br>Part. 1<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901<br>592<br>466<br>768<br>835<br>596<br>843                                                                                         | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865                                                                                                                        | 1610<br>2240<br>2110<br>ne; quantifiied as on<br>SRM 1649a<br>Sample I<br>(ng/g as received)<br>5590<br>2920<br>940<br>611<br>453<br>783<br>827<br>590<br>825                                                  | 1340<br>2470<br>2100<br>2100<br>se peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952                                                                                                                   | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2860<br>510<br>613<br>485<br>829<br>966<br>694<br>980                                                                                                                                                                                                                                                                 |
| C2726 C2726 C2726 C2926 C2926 C2926 C2926 12 Detec Coefu  2-mm Bipip 2-M 1-2-1 1,3+ 2,6+ 1,4+ Acce 1,2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14b(H),17b(H)-cholestane 20S-5a(H),14b(H),17b(H)-diasterane + C2720R- 20R-5a(H),14b(H),17b(H)-stigmastane 20R-5a(H),14a(H),17a(H)-stigmastane 20R-5a(H),14a(H),17a(H)-stigmastane ction Limit = 40ng/g for all data sets ution Compounds: chrysene and triphenyler and triphenyler bethylnaphthalene ethlylnaphthalene +1,641,7dimethylnaphth +2,7-dimethylnaphth +1,542,3-dimethylnaphth enaphthylene -dimethylnaphthalene -dimethylnaphthalene -dimethylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 93.8 68.3 149 137 ne; benzo(b)fluoran Extract 1 Sample 1 (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8                                                                                  | 33.7<br>117<br>57.6<br>115<br>102<br>whene, benzo(j)fluo<br>Extract I<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8                                                                                                                                           | 87.6<br>80.4<br>168<br>149<br>Farnthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2                                                                                                 | 1640<br>1350<br>2080<br>1710<br>Part. I<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709<br>481<br>359<br>686<br>756<br>493<br>705<br>525                                                                 | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and<br>Part. I<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901<br>592<br>466<br>768<br>835<br>596<br>843<br>804                                                          | 1810<br>2520<br>2630<br>d dibenz(ae)anthrace<br>Part. I<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777                                                                                                                 | 1610<br>2240<br>2110<br>ne; quantified as or<br>SRM 1649a<br>Sample 1<br>(ng/g as received)<br>5590<br>2920<br>940<br>611<br>453<br>783<br>827<br>590<br>825                                                   | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759                                                                                                                    | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(19/g asrect<br>5800<br>2860<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040                                                                                                                                                                                                                                                          |
| C2726<br>C2726<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C2926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926<br>C3926     | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14b(H),17b(H)-cholestane 20S-5a(H),14b(H),17b(H)-diasterane + C2720R- 20R-5a(H),14b(H),17b(H)-stigmastane 20R-5a(H),14b(H),17a(H)-stigmastane 20R-5a(H),14a(H),17a(H)-stigmastane 20R-5a(H),14a(H),17a(H)-stigmastane 20R-5a(H),14a(H),17a(H)-stigmastane 20R-5a(H),14a(H),17a(H)-stigmastane 20R-5a(H),14a(H),17a(H)-stigmastane 20R-5a(H),14a(H),17a(H)-stigmastane 20R-5a(H),14a(H)-stigmastane 20R-5a(H),14a(H)-stigmastane 20R-5a(H),14a(H)-stigmastane 20R-5a(H),14a(H)-stigmastane 20R-5a(H)-stigmastane 20R-5a(H)-stigmastane 20R-5a(H)-stigmastane 20R-5a(H)-stigmastane 20R-5a(H),14a(H)-stigmastane 20R-5a(H)-stigmastane 20R-5a(H | 93.8 68.3 149 137 ne; benzo(b)fluoran Extract 1 Sample 1 (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9                                                                             | 33.7<br>117<br>57.6<br>115<br>102<br>whene, benzo(j)fluo<br>Extract I<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8                                                                                                                                   | 87.6<br>80.4<br>168<br>149<br>ranthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9                                                                                          | 1640<br>1350<br>2080<br>1710<br>20(j)fluoranthene; dibe<br>Part. 1<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709<br>481<br>359<br>686<br>756<br>493<br>705<br>525<br>1190                              | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and<br>Part. 1<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901<br>592<br>466<br>768<br>835<br>596<br>843<br>804<br>1540                                                  | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590                                                                                                         | 1610<br>2240<br>2110<br>me; quantified as on<br>SRM 1649a<br>Sample 1<br>(ng/g as received)<br>5590<br>2920<br>940<br>611<br>453<br>783<br>827<br>590<br>825<br>833<br>1640                                    | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360                                                                                                            | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rect<br>5800<br>2860<br>5100<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870                                                                                                                                                                                                                                                |
| C272c C272c C272c C292c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H),15k(H)-stigmastane 20R-5a(H),14k(H),15k(H)-stigmastane 20R-5a(H),14k(H),15k(H)-stigmastane 20R-5a(H),14k(H),15k(H)-stigmastane 20R-5a(H),14k(H),15k(H)-stigmastane 20R-5a(H),15k(H),15k(H),15k(H) 20R-5a(H),15k(H),15k(H),15k(H),15k(H),15k(H) 20R-5a(H),15k(H),15k(H),15k(H),15k(H),15k(H) 20R-5a(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15 | 93.8 68.3 149 137 ne; benzo(b)fluoran Extract 1 Sample 1 (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7                                                                        | 33.7<br>117<br>57.6<br>115<br>102<br>whene, benzo(j)fluo<br>Extract 1<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8<br>30.5                                                                                                                           | 87.6<br>80.4<br>168<br>149<br>Farnthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1                                                                                 | 1640<br>1350<br>2080<br>1710<br>20(j)fluoranthene; dibe<br>Part. I<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709<br>481<br>359<br>686<br>756<br>493<br>705<br>525<br>1190                              | 1410<br>1090<br>2250<br>2040<br>Part. 1<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901<br>592<br>466<br>768<br>835<br>596<br>843<br>804<br>1540<br>544                                                                   | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456                                                                                                  | 1610<br>2240<br>2110<br>ne: quantifiied as on<br>SRM 1649a<br>Sample I<br>(ng/g as received)<br>5590<br>2920<br>940<br>611<br>453<br>783<br>827<br>590<br>825<br>833<br>1640<br>573                            | 1340<br>2470<br>2100<br>se peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490                                                                                                     | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as recc<br>5800<br>2860<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586                                                                                                                                                                                                                                          |
| C2726 C2726 C2726 C2926 C2926 C2926 C2926 C2927 C2927 12 Detec Coefu  1-m Bipip 2-M 1+2-4 1-3+ 4-4 Acce 1-2-3-M 4-M 4-4-tr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14b(H),17b(H)-cholestane 20S-5a(H),14b(H),17b(H)-diasterane + C2720R- 20R-5a(H),14b(H),17b(H)-stigmastane 20R-5a(H),14a(H),17a(H)-stigmastane 20R-5a(H),14a(H),17a(H)-stigmastane ction Limit = 40ng/g for all data sets fution Compounds: chrysene and triphenyler anethylnaphthalene nethylnaphthalene hethylbiphenyl Zethylnaphthalene +1,6+1,7dimethylnaphth +2,7-dimethylnaphth enaphthylene -dimethylnaphthalene -dimethylnaphthalene -dimethylnaphthalene -dimethylnaphthalene -dimethylnaphthalene -dimethylnaphthalene -dimethylnaphthalene -dimethylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 93.8 68.3 149 137 ne; benzo(b)fluoran Extract 1 Sample I (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7                                                                        | 33.7<br>117<br>57.6<br>115<br>102<br>thene, benzo(j)fluo<br>Extract 1<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8<br>30.5<br>46.6                                                                                                                   | 87.6<br>80.4<br>168<br>149<br>Farnthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1                                                                                 | 1640<br>1350<br>2080<br>1710<br>Part. I<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709<br>481<br>359<br>686<br>756<br>493<br>705<br>525<br>1190<br>344<br>384                                           | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and<br>Part. I<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901<br>592<br>466<br>768<br>835<br>596<br>843<br>804<br>1540<br>544<br>272                                    | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. I<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342                                                                                           | 1610<br>2240<br>2110<br>ne; quantified as or<br>SRM 1649a<br>Sample 1<br>(ng/g as received)<br>5590<br>2920<br>940<br>611<br>453<br>783<br>827<br>590<br>825<br>833<br>1640<br>573<br>386                      | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201                                                                                              | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2860<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586<br>586<br>6243                                                                                                                                                                                                                           |
| C2726 C2726 C2726 C2926 C2926 C2926 C2926 C2927 C2927 12 Detec Coefu  1-m Bipip 2-M 1+2-4 1-3+ 4-4 Acce 1-2-3-M 4-M 4-4-tr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H),15k(H)-stigmastane 20R-5a(H),14k(H),15k(H)-stigmastane 20R-5a(H),14k(H),15k(H)-stigmastane 20R-5a(H),14k(H),15k(H)-stigmastane 20R-5a(H),14k(H),15k(H)-stigmastane 20R-5a(H),15k(H),15k(H),15k(H) 20R-5a(H),15k(H),15k(H),15k(H),15k(H),15k(H) 20R-5a(H),15k(H),15k(H),15k(H),15k(H),15k(H) 20R-5a(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15k(H),15 | 93.8 68.3 149 137 ne; benzo(b)fluoran Extract 1 Sample 1 (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7                                                                        | 33.7<br>117<br>57.6<br>115<br>102<br>whene, benzo(j)fluo<br>Extract 1<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8<br>30.5                                                                                                                           | 87.6<br>80.4<br>168<br>149<br>Farnthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1                                                                                 | 1640<br>1350<br>2080<br>1710<br>20(j)fluoranthene; dibe<br>Part. I<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709<br>481<br>359<br>686<br>756<br>493<br>705<br>525<br>1190                              | 1410<br>1090<br>2250<br>2040<br>Part. 1<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901<br>592<br>466<br>768<br>835<br>596<br>843<br>804<br>1540<br>544                                                                   | 1810<br>2520<br>2530<br>d dibenz(ae)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342                                                                                           | 1610<br>2240<br>2110<br>ne; quantified as or<br>SRM 1649a<br>Sample 1<br>(ng/g as received)<br>5590<br>2920<br>940<br>611<br>453<br>783<br>827<br>590<br>825<br>833<br>1640<br>573<br>386                      | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809                                                                                       | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2660<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586<br>2433<br>912                                                                                                                                                                                                                           |
| C2726<br>C2726<br>C2726<br>C2926<br>C2926<br>C2921<br>12 Detec<br>Coefu<br>1-m<br>1-m<br>1-m<br>1-y<br>1-2-M<br>1-2-M<br>1-3-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4<br>1-4-4 | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14b(H),17b(H)-cholestane 20S-5a(H),14b(H),17b(H)-diasterane + C2720R- 20R-5a(H),14b(H),17b(H)-stigmastane 20R-5a(H),14a(H),17a(H)-stigmastane 20R-5a(H),14a(H),17a(H)-stigmastane ction Limit = 40ng/g for all data sets fution Compounds: chrysene and triphenyler anethylnaphthalene nethylnaphthalene hethylbiphenyl Zethylnaphthalene +1,6+1,7dimethylnaphth +2,7-dimethylnaphth enaphthylene -dimethylnaphthalene -dimethylnaphthalene -dimethylnaphthalene -dimethylnaphthalene -dimethylnaphthalene -dimethylnaphthalene -dimethylnaphthalene -dimethylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 93.8 68.3 149 137 ne; benzo(b)fluoran Extract 1 Sample I (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7                                                                        | 33.7<br>117<br>57.6<br>115<br>102<br>thene, benzo(j)fluo<br>Extract 1<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8<br>30.5<br>46.6                                                                                                                   | 87.6<br>80.4<br>168<br>149<br>Farnthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1                                                                                 | 1640<br>1350<br>2080<br>1710<br>Part. I<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709<br>481<br>359<br>686<br>756<br>493<br>705<br>525<br>1190<br>344<br>384                                           | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and<br>Part. I<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901<br>592<br>466<br>768<br>835<br>596<br>843<br>804<br>1540<br>544<br>272                                    | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. I<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342                                                                                           | 1610<br>2240<br>2110<br>ne; quantified as or<br>SRM 1649a<br>Sample 1<br>(ng/g as received)<br>5590<br>2920<br>940<br>611<br>453<br>783<br>827<br>590<br>825<br>833<br>1640<br>573<br>386                      | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201                                                                                              | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2860<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586<br>586<br>6243                                                                                                                                                                                                                           |
| C2726 C2726 C2726 C2926                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-5a(H),14k(H), 17b(H)-diasterane + C2720R- 20R-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H),15k(H)-stigmastane 20R-5a(H),14k(H),17k(H)-stigmastane 20R-5a(H),14k(H),17k | 93.8 68.3 149 137 ne; benzo(b)fluoran Extract I Sample I (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7 43.8 65.9                                                              | 33.7<br>117<br>57.6<br>115<br>102<br>whene, benzo(j)fluo<br>Extract I<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8<br>30.5<br>46.6<br>59.0                                                                                                           | 87.6<br>80.4<br>168<br>149<br>ranthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1<br>50.9<br>71.8                                                                  | 1640<br>1350<br>2080<br>1710<br>Part. I<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709<br>481<br>359<br>686<br>756<br>493<br>705<br>525<br>1190<br>344<br>384                                           | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and<br>Part. I<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901<br>592<br>466<br>768<br>835<br>596<br>843<br>804<br>1540<br>544<br>272                                    | 1810<br>2520<br>2530<br>d dibenz(ae)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342                                                                                           | 1610<br>2240<br>2110<br>ne; quantified as or<br>SRM 1649a<br>Sample 1<br>(ng/g as received)<br>5590<br>2920<br>940<br>611<br>453<br>783<br>827<br>590<br>825<br>833<br>1640<br>573<br>386                      | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809                                                                                       | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2660<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586<br>2433<br>912                                                                                                                                                                                                                           |
| C2726 C2726 C2726 C2926 C2926 C2926 C2926 C2926 12 Detec Coefu  1-m Bipl 2-M 1+2e 1.3+ 2.6+ 1.4+ Ace 1.2- 3-M A-tr Dibb B-tr C-tr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-5a(H),14k(H), 17b(H)-diasterane + C2720R- 20R-5a(H),14k(H), 17a(H)-dissterane + C2720R- 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H),14k(H) | 93.8 68.3 149 137 ne; benzo(b)fluoran Extract 1 Sample 1 (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7 43.8 65.9 42.8 45.0                                                    | 33.7<br>117<br>57.6<br>115<br>102<br>Ithene, benzo(j)fluo<br>Extract 1<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8<br>30.5<br>46.6<br>59.0<br>44.8<br>48.3                                                                                          | 87.6<br>80.4<br>168<br>149<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1<br>50.9<br>71.8                                                                                        | 1640<br>1350<br>2080<br>1710<br>Part. I<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709<br>481<br>359<br>686<br>756<br>493<br>705<br>525<br>1190<br>344<br>384                                           | 1410<br>1090<br>2250<br>2040<br>Part. 1<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901<br>592<br>466<br>768<br>835<br>596<br>843<br>804<br>1540<br>544<br>272<br>483<br>362<br>339                                       | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342<br>773<br>310<br>262                                                                      | 1610 2240 2110  me; quantified as on SRM 1649a Sample 1 (ng/g as received) 5590 2920 940 611 453 783 827 590 825 833 1640 573 386 665 277                                                                      | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809<br>296                                                                                | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2860<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586<br>243<br>912<br>157                                                                                                                                                                                                                     |
| C2726 C2726 C2726 C2926 C2926 C2926 C2926 C2926 C2926 12 Detec Coefu  1-m Biptip 2-M 1+2- 1-3-3 3-M 4-M A-tr Dibb B-tr C-tr E-tr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14b(H), 17b(H)-cholestane 20S-5a(H),14b(H), 17b(H)-diasterane + C2720R- 20R-5a(H),14b(H), 17b(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane ction Limit = 40ng/g for all data sets fution Compounds: chrysene and triphenyler and triphenyler benethylnaphthalene enethylnaphthalene ethylnaphthalene eth,1-6+1,7dimethylnaphth eth,2-7-dimethylnaphth enaphthylene -dimethylnaphthalene edimethylnaphthalene edimethylnaphthalene edimethylnaphthalene benzofura trimethylnaphthalene trimethylnaphthalene trimethylnaphthalene trimethylnaphthalene trimethylnaphthalene trimethylnaphthalene trimethylnaphthalene trimethylnaphthalene trimethylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 93.8 68.3 149 137 ne; benzo(b)fluoran Extract 1 Sample I (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7 43.8 65.9 43.8 45.0 33.3                                               | 33.7<br>117<br>57.6<br>115<br>102<br>thene, benzo(j)fluo<br>Extract 1<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8<br>30.5<br>46.6<br>59.0<br>44.8<br>48.3<br>31.3                                                                                   | 87.6<br>80.4<br>168<br>149<br>Farnthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1<br>50.9<br>71.8<br>51.4<br>51.1                                                 | 1640<br>1350<br>2080<br>1710<br>Part. I<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709<br>481<br>359<br>686<br>756<br>493<br>705<br>525<br>1190<br>344<br>483<br>359<br>384<br>483<br>359<br>390<br>371 | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and<br>Part. I<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901<br>592<br>466<br>768<br>835<br>596<br>843<br>804<br>1540<br>544<br>272<br>483<br>362<br>339<br>387        | 1810<br>2520<br>2630<br>d dibenz(ae)anthrace<br>Part. I<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342<br>773<br>310<br>262<br>310                                                               | 1610<br>2240<br>2110<br>ne; quantified as or<br>SRM 1649a<br>Sample 1<br>(ng/g as received)<br>5590<br>2920<br>940<br>611<br>453<br>783<br>827<br>590<br>825<br>833<br>1640<br>573<br>386<br>665<br>277<br>266 | 1340<br>2470<br>2100<br>he peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809<br>296<br>282                                                                         | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2660<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>582<br>992<br>1440<br>2870<br>582<br>1440<br>2870<br>5870<br>5870<br>5870<br>5870<br>5870<br>5870<br>5870<br>5                                                                                                                               |
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    | 10R-13b(H),17a(H)-diasterane 10S-5a(H),14k(H), 17b(H)-diasterane 10S-5a(H),14k(H), 17b(H)-diasterane + C2720R- 10R-5a(H),14k(H), 17b(H)-dissterane + C2720R- 10R-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H), | 93.8 68.3 149 137 ne; benzo(b)fluorant Extract 1 Sample I (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7 43.8 65.9 43.8 45.0 33.3 41.5                                         | 33.7<br>117<br>57.6<br>115<br>102<br>thene, benzo(j)fluo<br>Extract I<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8<br>30.5<br>46.6<br>59.0<br>44.8<br>48.3<br>31.3<br>40.5                                                                           | 87.6<br>80.4<br>168<br>149<br>Franthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1<br>50.9<br>71.8<br>51.4                                                         | 1640 1350 2080 1710 2080 1710 20(j)fluoranthene; dibe Part. 1 Sample I (ng/g as received) 3510 1780 709 481 359 686 756 493 705 525 1190 344 384 483 359 390 371 170                                              | 1410<br>1090<br>2250<br>2040<br>nz(ah)anthracene and<br>Part. I<br>Sample 2<br>(ng/g as received)<br>4490<br>2260<br>901<br>592<br>466<br>768<br>835<br>596<br>843<br>804<br>1540<br>544<br>272<br>483<br>362<br>339<br>387<br>210 | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. I<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342<br>773<br>310<br>262<br>310                                                               | 1610 2240 2110  ne; quantified as or SRM 1649a Sample 1 (ng/g as received) 5590 2920 940 611 453 783 827 590 825 833 1640 573 386 665 277 266 479 266                                                          | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809<br>296<br>282<br>446<br>341                                                           | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rect<br>5800<br>2660<br>5100<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586<br>243<br>912<br>157<br>327<br>462<br>220<br>320                                                                                                                                                                                        |
| C272c C272c C272c C292c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-5a(H),14k(H), 17b(H)-diasterane + C2720R- 20R-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H),14k(H)-stigmastane 20R-5a(H),14k(H),14k(H)-stigmastane 20R-5a(H),14k(H),14k(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-sti | 93.8 68.3 149 137 ne; benzo(b)fluoran Extract 1 Sample 1 (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7 43.8 65.9 43.8 45.0 33.3 41.5                                          | 33.7<br>117<br>57.6<br>115<br>102<br>Inthene, benzo(j)fluo<br>Extract 1<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8<br>30.5<br>46.6<br>59.0<br>44.8<br>48.3<br>31.3<br>40.5<br>19.6                                                                 | 87.6<br>80.4<br>168<br>149<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1<br>50.9<br>71.8<br>51.4<br>51.1                                                                        | 1640<br>1350<br>2080<br>1710<br>Part. I<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709<br>481<br>359<br>686<br>756<br>493<br>705<br>525<br>1190<br>344<br>384<br>483<br>359<br>390<br>371<br>170<br>644 | 1410 1090 2250 2040  Part. 1 Sample 2 (ng/g as received) 4490 2260 901 592 466 768 835 596 843 804 1540 544 272 483 362 339 387 210 712                                                                                            | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342<br>773<br>310<br>262<br>310<br>184<br>731                                                 | 1610 2240 2110  ne; quantified as or SRM 1649a Sample 1 (ng/g as received) 5590 2920 940 611 453 783 827 590 825 833 1640 573 386 665 277 266 479 266 808                                                      | 1340<br>2470<br>2100<br>se peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2280<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809<br>296<br>282<br>446<br>341                                                           | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rect<br>5800<br>2860<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586<br>243<br>912<br>157<br>327<br>462<br>203<br>812                                                                                                                                                                                         |
| C272c C272c C272c C292c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 10R-13b(H),17a(H)-diasterane 10S-5a(H),14k(H), 17b(H)-diasterane 10S-5a(H),14k(H), 17b(H)-diasterane + C2720R- 10R-5a(H),14k(H), 17b(H)-dissterane + C2720R- 10R-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H), | 93.8 68.3 149 137 ne; benzo(b)fluorant Extract 1 Sample I (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7 43.8 65.9 43.8 45.0 33.3 41.5                                         | 33.7<br>117<br>57.6<br>115<br>102<br>thene, benzo(j)fluo<br>Extract I<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8<br>30.5<br>46.6<br>59.0<br>44.8<br>48.3<br>31.3<br>40.5                                                                           | 87.6<br>80.4<br>168<br>149<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>71.8<br>51.4<br>51.1<br>38.9<br>46.1<br>20.9<br>69.7                                                        | 1640 1350 2080 1710  2080 1710  Part. I Sample I (ng/g as received) 3510 1780 709 481 359 686 756 493 705 525 1190 344 384 483 359 390 371 170 644 460                                                            | 1410 1090 2250 2040  nz(ah)anthracene and Part. I Sample 2 (ng/g as received) 4490 2260 901 592 466 768 835 596 843 804 1540 5444 272 483 362 339 387 210 712 509                                                                  | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. I<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342<br>773<br>310<br>262<br>310<br>184<br>731                                                 | 1610 2240 22110  ne; quantified as or SRM 1649a Sample 1 (ng/g as received) 5590 2920 940 611 453 783 827 590 825 833 1640 573 386 665 277 266 479 266 808                                                     | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809<br>201<br>809<br>226<br>246<br>341<br>894<br>652                                      | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2860<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586<br>243<br>912<br>1327<br>462<br>203<br>812<br>812<br>812<br>812<br>813<br>812<br>813<br>812<br>813<br>812<br>813<br>812<br>813<br>813<br>814<br>815<br>816<br>816<br>817<br>817<br>817<br>817<br>817<br>817<br>817<br>817<br>817<br>817  |
| C2726 C2726 C2726 C2926 C2926 C2926 C2926 C2926 C2926 12 Detec Cocfu  1-m Bipt 2-M 1-2-4 1.3-4 Ace 1.2-2 3-M A-tr Dibb B-tr E-tr E-tr E-tr -tr -tr -tr -tr -tr -tr -tr -tr -tr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-5a(H),14k(H), 17b(H)-diasterane + C2720R- 20R-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H),14k(H)-stigmastane 20R-5a(H),14k(H),14k(H)-stigmastane 20R-5a(H),14k(H),14k(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-sti | 93.8 68.3 149 137 ne; benzo(b)fluoran Extract 1 Sample 1 (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7 43.8 65.9 43.8 45.0 33.3 41.5                                          | 33.7<br>117<br>57.6<br>115<br>102<br>Inthene, benzo(j)fluo<br>Extract 1<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8<br>30.5<br>46.6<br>59.0<br>44.8<br>48.3<br>31.3<br>40.5<br>19.6                                                                 | 87.6<br>80.4<br>168<br>149<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1<br>50.9<br>71.8<br>51.4<br>51.1                                                                        | 1640<br>1350<br>2080<br>1710<br>Part. I<br>Sample I<br>(ng/g as received)<br>3510<br>1780<br>709<br>481<br>359<br>686<br>756<br>493<br>705<br>525<br>1190<br>344<br>384<br>483<br>359<br>390<br>371<br>170<br>644 | 1410 1090 2250 2040  Part. 1 Sample 2 (ng/g as received) 4490 2260 901 592 466 768 835 596 843 804 1540 544 272 483 362 339 387 210 712                                                                                            | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342<br>773<br>310<br>262<br>310<br>184<br>731                                                 | 1610 2240 2110  ne; quantified as or SRM 1649a Sample 1 (ng/g as received) 5590 2920 940 611 453 783 827 590 825 833 1640 573 386 665 277 266 479 266 808                                                      | 1340<br>2470<br>2100<br>se peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2280<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809<br>296<br>282<br>446<br>341                                                           | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rect<br>5800<br>2860<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586<br>243<br>912<br>157<br>327<br>462<br>203<br>812                                                                                                                                                                                         |
| C2726 C2726 C2726 C2726 C2926 C2920 C2920 C2920 C2920 12 Detec Coefu  1-m Bipipi 2-M 1+2 1,3+ 4-4 Ace 1,2-4 3-M 4-M A-tr Dibb B-tr C-tr E-tr F-tr J-tri J-tri J-tri J-2,3,2,4,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14b(H), 17b(H)-cholestane 20S-5a(H),14b(H), 17b(H)-diasterane + C2720R- 20R-5a(H),14b(H), 17b(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane ction Limit = 40ng/g for all data sets fution Compounds: chrysene and triphenyler and triphenyler benethylnaphthalene hethylnaphthalene hethylnaphthalene hethylnaphthalene hethylnaphthalene hethylnaphthalene dimethylnaphthalene dimethylnaphthalene hethylnaphthalene hethylnaphthalene hethylnaphthalene hetrimethylnaphthalene trimethylnaphthalene 1,5-t-t-trimethylnaphthalene 1,5-t-trimethylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 93.8 68.3 149 137 ne; benzo(b)fluoran Extract 1 Sample I (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7 43.8 65.9 43.8 45.0 33.3 41.5                                          | 33.7<br>117<br>57.6<br>115<br>102<br>Ithene, benzo(j)fluo<br>Extract 1<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8<br>30.5<br>46.6<br>59.0<br>44.8<br>48.3<br>31.3<br>40.5<br>19.6<br>63.1                                                          | 87.6<br>80.4<br>168<br>149<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>71.8<br>51.4<br>51.1<br>38.9<br>46.1<br>20.9<br>69.7                                                        | 1640 1350 2080 1710  2080 1710  Part. I Sample I (ng/g as received) 3510 1780 709 481 359 686 756 493 705 525 1190 344 384 483 359 390 371 170 644 460                                                            | 1410 1090 2250 2040  nz(ah)anthracene and Part. I Sample 2 (ng/g as received) 4490 2260 901 592 466 768 835 596 843 804 1540 5444 272 483 362 339 387 210 712 509                                                                  | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. I<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342<br>773<br>310<br>262<br>310<br>184<br>731                                                 | 1610 2240 22110  ne; quantified as or SRM 1649a Sample 1 (ng/g as received) 5590 2920 940 611 453 783 827 590 825 833 1640 573 386 665 277 266 479 266 808                                                     | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809<br>201<br>809<br>226<br>246<br>341<br>894<br>652                                      | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2860<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586<br>243<br>912<br>157<br>327<br>462<br>203<br>812<br>812<br>812                                                                                                                                                                           |
| C2726 C2726 C2726 C2726 C2926                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-5a(H),14k(H), 17b(H)-diasterane + C2720R- 20R-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a | 93.8 68.3 149 137 ne; benzo(b)fluorar Extract 1 Sample 1 (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7 43.8 65.9 43.8 45.0 33.3 41.5 19.1 62.1 7.89                           | 33.7 117 57.6 115 102  uthene, benza(j)fluo Extract 1 Sample 2 (ng/g) 317 147 166 8.40 42.7 90.1 104 291 90.1 61.8 47.8 30.5 46.6 59.0 44.8 48.3 31.3 40.5 19.6 63.1 6.36 6.36                                                                                                                                   | 87.6<br>80.4<br>149<br>ranthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1<br>50.9<br>71.8<br>51.4<br>51.1<br>38.9<br>46.1<br>20.9<br>69.7<br>6.11                 | 1640 1350 2080 1710 2080 1710 20(j)fluoranthene; dibe Part. I Sample I (ng/g as received) 3510 1780 709 481 359 686 756 493 705 525 1190 344 483 359 399 371 170 644 460                                          | 1410 1090 2250 2040  nz(ah)anthracene and Part. I Sample 2 (ng/g as received) 4490 2260 901 592 466 768 835 596 843 804 1540 544 2772 483 362 339 387 210 712 509 210                                                              | 1810<br>2520<br>2520<br>2530<br>d dibenz(ae)anthrace<br>Part. I<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342<br>773<br>310<br>262<br>310<br>184<br>731<br>527<br>228                           | 1610 2240 2110 ne; quantified as or SRM 1649a Sample 1 (ng/g as received) 5590 2920 940 6111 453 783 827 590 825 833 1640 573 386 665 277 266 479 266 808 581                                                  | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809<br>296<br>282<br>446<br>341<br>894<br>652<br>238                                      | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as recc<br>5800<br>2660<br>5100<br>613<br>485<br>829<br>9966<br>694<br>980<br>1040<br>2870<br>586<br>243<br>912<br>157<br>327<br>462<br>203<br>812<br>584<br>485                                                                                                                                                                         |
| C272c C272c C272c C292c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-5a(H),14k(H), 17b(H)-diasterane + C2720R- 20R-5a(H),14k(H), 17a(H)-diasterane + C2720R- 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H), | 93.8 68.3 149 137  ne; benzo(b)fluoran Extract 1 Sample 1 (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7 43.8 65.9 43.8 45.0 33.3 41.5 19.1 62.1 7.89 7.38                     | 33.7<br>117<br>57.6<br>115<br>102<br>Ithene, benzo(j)fluo<br>Extract 1<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8<br>30.5<br>46.6<br>59.0<br>44.8<br>48.3<br>31.3<br>40.5<br>19.6<br>63.1<br>63.6<br>6.36<br>6.36<br>6.36                          | 87.6<br>80.4<br>168<br>149<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1<br>50.9<br>71.8<br>51.4<br>51.1<br>38.9<br>69.7<br>6.11                                                | 1640 1350 2080 1710  to(j)fluoranthene; dibe Part. I Sample I (ng/g as received) 3510 1780 709 481 359 686 756 493 705 525 1190 344 384 483 359 390 371 170 644 460 181                                           | 1410 1090 2250 2040  nz(ah)anthracene an Part. 1 Sample 2 (ng/g as received) 4490 2260 901 592 466 768 835 596 843 804 1540 544 272 483 362 339 387 210 712 509 210 225                                                            | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. 1<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342<br>773<br>310<br>262<br>310<br>184<br>731<br>527<br>228<br>20                             | 1610 2240 2110  ne: quantified as on SRM 1649a Sample 1 (ng/g as received) 5590 2920 940 611 453 783 827 590 825 833 1640 573 386 665 277 266 479 266 808 581 225 44                                           | 1340<br>2470<br>2100<br>he peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809<br>296<br>282<br>446<br>341<br>894<br>652<br>238<br>56                                | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rect<br>5800<br>2860<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586<br>243<br>912<br>227<br>462<br>203<br>812<br>584<br>222                                                                                                                                                                                  |
| C2726 C2726 C2726 C2726 C2926 C2920 C2920 C2920 12 Detec Coefu  1-m Bipipi 2-M 1+2-1 1-3-3 3-M 4-M A-tr C-tr E-tr E-tr J-tri J-tri 2-3, 2,4, 1-4 A-n                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-5a(H),14k(H), 17b(H)-diasterane + C2720R- 20R-5a(H),14k(H), 17a(H)-dissterane + C2720R- 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane 20R-5a(H),14a(H), 17a(H)-stigmastane 20R-5a(H),14a(H),17a(H)-stigmastane 20R-5a(H),14a(H),17a(H)-stigmastane 20R-5a(H),14a(H),15a(H)-stigmastane 20R-5a(H),14a(H),17a(H)-stigmastane 20R-5a(H),14a(H),14a(H),14a(H),14a(H) 20R-5a(H | 93.8 68.3 149 137 ne; benzo(b)fluoran Extract 1 Sample I (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7 43.8 65.9 43.8 45.0 33.3 41.5 19.1 62.1 7.89 7.38 17.6 15.8            | 33.7 117 57.6 115 102  whene, benzo(j)fluo Extract 1 Sample 2 (ng/g) 317 147 166 8.40 42.7 90.1 104 291 90.1 61.8 47.8 30.5 46.6 59.0 44.8 48.3 31.3 40.5 19.6 63.1 6.36 6.36 6.36 15.0 15.3                                                                                                                     | 87.6<br>80.4<br>168<br>149<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1<br>50.9<br>71.8<br>51.4<br>51.1<br>38.9<br>46.1<br>20.9<br>69.7<br>6.11<br>7.38                        | 1640 1350 2080 1710 2080 1710 20(j)fluoranthene; dibe Part. I Sample I (ng/g as received) 3510 1780 709 481 359 686 756 493 705 525 1190 344 483 359 390 371 170 644 460 181 29 73 86                             | 1410 1090 2250 2040  nz(ah)anthracene and Part. I Sample 2 (ng/g as received) 4490 2260 901 592 466 768 835 596 843 804 1540 544 272 483 362 339 387 210 712 509 210 25 31                                                         | 1810<br>2520<br>2520<br>2530<br>d dibenz(ae)anthrace<br>Part. I<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342<br>773<br>310<br>262<br>310<br>184<br>731<br>527<br>228<br>20<br>40<br>102        | 1610 2240 2110  ne; quantified as or SRM 1649a Sample 1 (ng/g as received) 5590 2920 940 611 453 783 827 590 825 833 1640 573 386 665 277 266 479 266 808 581 225 44 94                                        | 1340<br>2470<br>2100<br>he peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809<br>296<br>282<br>446<br>341<br>894<br>652<br>238<br>56                                | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as recc<br>5800<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>582<br>996<br>624<br>391<br>462<br>243<br>912<br>157<br>327<br>462<br>203<br>812<br>584<br>222<br>584<br>222<br>586<br>587<br>687<br>687<br>687<br>687<br>687<br>687<br>687<br>687<br>687<br>6                                                       |
| C272c C272c C272c C272c C292c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-5a(H),14k(H), 17b(H)-diasterane + C2720R- 20R-5a(H),14k(H), 17b(H)-dissymastane 20R-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H) | 93.8 68.3 149 137 ne; benzo(b)fluorare Extract 1 Sample 1 (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7 43.8 45.9 39.7 43.8 45.0 33.3 41.5 19.1 62.1 7.89 7.38 17.6 15.8 92.1 | 33.7<br>117<br>57.6<br>115<br>102<br>Inthene, benzo(j)fluo<br>Extract 1<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8<br>30.5<br>46.6<br>59.0<br>44.8<br>48.3<br>31.3<br>40.5<br>19.6<br>6.36<br>6.36<br>6.36<br>6.36<br>6.36<br>15.0<br>15.3<br>85.0 | 87.6<br>80.4<br>168<br>149<br>Franthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1<br>50.9<br>71.8<br>51.4<br>51.1<br>38.9<br>46.1<br>20.9<br>69.7<br>6.11<br>7.38 | 1640 1350 2080 1710 2080 1710 20(j)fluoranthene; dibe Part. 1 Sample I (ng/g as received) 3510 1780 709 481 3559 686 756 493 705 525 1190 344 384 483 359 390 371 170 644 460 181 29 73 86 6640                   | 1410 1090 2250 2040  nz(ah)anthracene and Part. I Sample 2 (ng/g as received) 42490 2260 901 592 466 768 835 596 843 804 1540 544 277 483 362 339 387 210 712 509 210 25 31 52 525                                                 | 1810<br>2520<br>2520<br>2530<br>d dibenz(ac)anthrace<br>Part. I<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342<br>773<br>310<br>262<br>310<br>184<br>731<br>527<br>228<br>20<br>40<br>102<br>515 | 1610 2240 2110  ne; quantified as or SRM 1649a Sample 1 (ng/g as received) 5590 2920 940 611 453 783 827 590 825 833 1640 573 386 665 277 266 479 266 808 581 225 44 94 99                                     | 1340<br>2470<br>2100<br>ne peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809<br>296<br>282<br>446<br>341<br>894<br>652<br>238<br>56<br>33<br>89                    | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2660<br>5100<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586<br>243<br>291<br>2157<br>327<br>462<br>203<br>812<br>203<br>812<br>500<br>203<br>812<br>500<br>812<br>812<br>812<br>812<br>812<br>812<br>812<br>813<br>814<br>815<br>816<br>816<br>816<br>816<br>816<br>816<br>816<br>816<br>816<br>816 |
| C272c C272c C272c C292c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-5a(H),14k(H), 17b(H)-diasterane + C2720R- 20R-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H) | 93.8 68.3 149 137 ne; benzo(b)fluoran Extract 1 Sample 1 (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7 43.8 65.9 43.8 45.0 33.3 41.5 19.1 62.1 7.89 7.38 17.6 15.8 92.1       | 33.7 117 57.6 115 102  whene, benzo(j)fluo Extract I Sample 2 (ng/g) 317 147 166 8.40 42.7 90.1 104 291 90.1 61.8 47.8 30.5 46.6 59.0 44.8 48.3 31.3 40.5 19.6 63.1 6.36 6.36 15.0 15.3 85.0 35.1                                                                                                                | 87.6<br>80.4<br>149<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1<br>50.9<br>71.8<br>51.1<br>38.9<br>46.1<br>20.9<br>69.7<br>6.11<br>7.38<br>14.5                               | 1640 1350 2080 1710 2080 1710 2080 1710 Part. I Sample I (ng/g as received) 3510 1780 709 481 359 686 756 493 705 525 1190 344 384 483 359 390 371 170 644 460 181 29 73 86 640                                   | 1410 1090 2250 2040  nz(ah)anthracene an Part. 1 Sample 2 (ng/g as received) 4490 2260 901 592 466 768 835 596 843 804 1540 272 483 362 339 387 210 712 509 210 25 31 52 525                                                       | 1810 2520 2630 d dibenz(ac)anthrace Part. 1 Sample 3 (ng/g as received) 4860 2570 625 476 464 793 881 621 865 777 1590 456 342 773 310 262 310 184 731 527 228 20 40 102 515 194                                                                                                  | 1610 2240 2110  me; quantified as on SRM 1649a Sample 1 (ng/g as received) 5590 2920 940 611 453 783 827 590 825 833 1640 573 386 665 277 266 479 266 4808 581 225 44 94 99 579                                | 1340<br>2470<br>2100<br>se peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2280<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809<br>296<br>282<br>446<br>341<br>894<br>652<br>238<br>56<br>33<br>89<br>464<br>235      | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as recc<br>5800<br>2860<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586<br>243<br>912<br>157<br>327<br>462<br>203<br>812<br>584<br>222<br>584<br>223<br>686<br>243<br>912<br>250<br>260<br>260<br>270<br>2870<br>2870<br>2870<br>2870<br>2870<br>2870<br>2870                                                    |
| C272c C272c C272c C292c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-5a(H),14k(H), 17b(H)-diasterane + C2720R- 20R-5a(H),14k(H), 17b(H)-dissymastane 20R-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H) 20R-5a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H),17a(H) | 93.8 68.3 149 137 ne; benzo(b)fluorare Extract 1 Sample 1 (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7 43.8 45.9 39.7 43.8 45.0 33.3 41.5 19.1 62.1 7.89 7.38 17.6 15.8 92.1 | 33.7<br>117<br>57.6<br>115<br>102<br>Inthene, benzo(j)fluo<br>Extract 1<br>Sample 2<br>(ng/g)<br>317<br>147<br>166<br>8.40<br>42.7<br>90.1<br>104<br>291<br>90.1<br>61.8<br>47.8<br>30.5<br>46.6<br>59.0<br>44.8<br>48.3<br>31.3<br>40.5<br>19.6<br>6.36<br>6.36<br>6.36<br>6.36<br>6.36<br>15.0<br>15.3<br>85.0 | 87.6<br>80.4<br>168<br>149<br>Franthene, and benz<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1<br>50.9<br>71.8<br>51.4<br>51.1<br>38.9<br>46.1<br>20.9<br>69.7<br>6.11<br>7.38 | 1640 1350 2080 1710 2080 1710 20(j)fluoranthene; dibe Part. 1 Sample I (ng/g as received) 3510 1780 709 481 3559 686 756 493 705 525 1190 344 384 483 359 390 371 170 644 460 181 29 73 86 6640                   | 1410 1090 2250 2040  nz(ah)anthracene and Part. I Sample 2 (ng/g as received) 42490 2260 901 592 466 768 835 596 843 804 1540 544 277 483 362 339 387 210 712 509 210 25 31 52 525                                                 | 1810<br>2520<br>2630<br>d dibenz(ac)anthrace<br>Part. I<br>Sample 3<br>(ng/g as received)<br>4860<br>2570<br>625<br>476<br>464<br>793<br>881<br>621<br>865<br>777<br>1590<br>456<br>342<br>773<br>310<br>262<br>310<br>184<br>731<br>527<br>228<br>20<br>40<br>102<br>515         | 1610 2240 22110  ne; quantified as or SRM 1649a Sample 1 (ng/g as received) 5590 2920 940 611 453 783 827 590 825 833 1640 573 386 665 277 266 479 266 808 581 225 44 94 99 579 157                            | 1340<br>2470<br>2100<br>he peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2380<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809<br>296<br>224<br>446<br>341<br>894<br>652<br>238<br>56<br>33<br>89<br>464<br>33<br>89 | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2860<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586<br>243<br>912<br>157<br>327<br>462<br>203<br>812<br>584<br>222<br>584<br>222<br>586<br>886<br>887<br>887<br>887<br>887<br>888<br>888<br>888<br>888<br>8                                                                                  |
| C272C C272C C272C C272C C292C C29C C292C C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20R-13b(H),17a(H)-diasterane 20S-5a(H),14k(H), 17b(H)-cholestane 20S-5a(H),14k(H), 17b(H)-diasterane + C2720R- 20R-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17b(H)-stigmastane 20R-5a(H),14k(H), 17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H)-stigmastane 20R-5a(H),14k(H),17a(H)-stigmastane 20R-5a(H) | 93.8 68.3 149 137 ne; benzo(b)fluoran Extract 1 Sample 1 (ng/g) 337 158 202 12.2 43.8 89.3 103 281 84.7 61.8 53.9 39.7 43.8 65.9 43.8 45.0 33.3 41.5 19.1 62.1 7.89 7.38 17.6 15.8 92.1       | 33.7 117 57.6 115 102  whene, benzo(j)fluo Extract I Sample 2 (ng/g) 317 147 166 8.40 42.7 90.1 104 291 90.1 61.8 47.8 30.5 46.6 59.0 44.8 48.3 31.3 40.5 19.6 63.1 6.36 6.36 15.0 15.3 85.0 35.1                                                                                                                | 87.6<br>80.4<br>149<br>Extract 1<br>Sample 3<br>(ng/g)<br>378<br>180<br>141<br>9.9<br>43.0<br>94.9<br>105<br>282<br>110<br>68.2<br>53.9<br>36.1<br>50.9<br>71.8<br>51.1<br>38.9<br>46.1<br>20.9<br>69.7<br>6.11<br>7.38<br>14.5                               | 1640 1350 2080 1710 2080 1710 2080 1710 Part. I Sample I (ng/g as received) 3510 1780 709 481 359 686 756 493 705 525 1190 344 384 483 359 390 371 170 644 460 181 29 73 86 640                                   | 1410 1090 2250 2040  nz(ah)anthracene an Part. 1 Sample 2 (ng/g as received) 4490 2260 901 592 466 768 835 596 843 804 1540 272 483 362 339 387 210 712 509 210 25 31 52 525                                                       | 1810 2520 2630 d dibenz(ac)anthrace Part. 1 Sample 3 (ng/g as received) 4860 2570 625 476 464 793 881 621 865 777 1590 456 342 773 310 262 310 184 731 527 228 20 40 102 515 194                                                                                                  | 1610 2240 2110  me; quantified as on SRM 1649a Sample 1 (ng/g as received) 5590 2920 940 611 453 783 827 590 825 833 1640 573 386 665 277 266 479 266 4808 581 225 44 94 99 579                                | 1340<br>2470<br>2100<br>se peak<br>SRM 1649a<br>Sample 2<br>(ng/g as received)<br>4840<br>2280<br>925<br>547<br>446<br>802<br>878<br>643<br>952<br>759<br>1360<br>490<br>201<br>809<br>296<br>282<br>446<br>341<br>894<br>652<br>238<br>56<br>33<br>89<br>464<br>235      | 1560<br>2590<br>1490<br>SRM 164<br>Sample<br>(ng/g as rece<br>5800<br>2860<br>510<br>613<br>485<br>829<br>966<br>694<br>980<br>1040<br>2870<br>586<br>243<br>2157<br>327<br>462<br>203<br>812<br>584<br>222<br>50<br>23<br>66<br>69<br>80<br>100<br>28<br>70<br>28<br>70<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80<br>80                                      |

|      | 3,6-dimethylphenanthrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 21.4                                                                                                                                                                                                                                                              | 23.2                                                                                                                                                                                                                       | 30.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 141                                                                                                                                                                                          | 146                | 174                | 204                                  | 136                | 201                 |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|--------------------------------------|--------------------|---------------------|
|      | A-dimethylphenanthrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 41.7                                                                                                                                                                                                                                                              | 39.7                                                                                                                                                                                                                       | 43.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 267                                                                                                                                                                                          | 269                | 222                | 296                                  | 327                | 286                 |
|      | B-dimethylphenanthrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 25.2                                                                                                                                                                                                                                                              | 27.7                                                                                                                                                                                                                       | 29.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 166                                                                                                                                                                                          | 165                | 130                | 183                                  | 192                | 189                 |
|      | C-dimethylphenanthrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 74.6                                                                                                                                                                                                                                                              | 76.6                                                                                                                                                                                                                       | 88.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 606                                                                                                                                                                                          | 649                | 555                | 711                                  | 656                | 754                 |
|      | D-dimethylphenanthrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 39.7                                                                                                                                                                                                                                                              | 30.0                                                                                                                                                                                                                       | 36.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 204                                                                                                                                                                                          | 201                | 172                | 245                                  | 204                | 226                 |
|      | E-dimethylphenanthrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 35.4                                                                                                                                                                                                                                                              | 31.3                                                                                                                                                                                                                       | 42.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 220                                                                                                                                                                                          |                    |                    |                                      |                    |                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              | 242                | 300                | 248                                  | 316                | 253                 |
| - 1  | 9-Anthraaldehyde                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 87.8                                                                                                                                                                                                                                                              | 82.2                                                                                                                                                                                                                       | 95.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 529                                                                                                                                                                                          | 364                | 605                | 334                                  | 587                | 622                 |
|      | I-McFI+C-McFI/Py                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 21.6                                                                                                                                                                                                                                                              | 24.4                                                                                                                                                                                                                       | 24.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 411                                                                                                                                                                                          | 399                | 362                | 436                                  | 423                | 425                 |
| - 1  | B-MePy/MeFI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 126                                                                                                                                                                                                                                                               | 122                                                                                                                                                                                                                        | 144                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 892                                                                                                                                                                                          | 823                | 925                | 913                                  | 994                | 957                 |
| - 1  | C-MePy/MeFI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 35.6                                                                                                                                                                                                                                                              | 30.8                                                                                                                                                                                                                       | 39.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 256                                                                                                                                                                                          | 252                | 248                | 260                                  | 248                | 303                 |
|      | 4-methylpyrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 48.3                                                                                                                                                                                                                                                              | 48.3                                                                                                                                                                                                                       | 54.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 388                                                                                                                                                                                          | 431                |                    |                                      |                    |                     |
| - 1  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |                    | 458                | 478                                  | 479                | 512                 |
| - 1  | I-methylpyrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 33.1                                                                                                                                                                                                                                                              | 34.6                                                                                                                                                                                                                       | 43.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 233                                                                                                                                                                                          | 260                | 262                | 264                                  | 294                | 282                 |
| - 1  | Benzonaphthothiophene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 115                                                                                                                                                                                                                                                               | 100                                                                                                                                                                                                                        | 125                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 588                                                                                                                                                                                          | 631                | 609                | 701                                  | 665                | 771                 |
| - 1  | Benzo(c)phenanthrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 61.1                                                                                                                                                                                                                                                              | 58.8                                                                                                                                                                                                                       | 71.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 348                                                                                                                                                                                          | 395                | 416                | 451                                  | 439                | 443                 |
| - 1  | 5+6-methylchrysene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 32.8                                                                                                                                                                                                                                                              | 34.6                                                                                                                                                                                                                       | 41.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 229                                                                                                                                                                                          | 230                | 212                | 195                                  | 188                |                     |
| - 1  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |                    |                    |                                      |                    | 226                 |
| - 1  | 7-methylbenzo(a)pyrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 8.14                                                                                                                                                                                                                                                              | 7.12                                                                                                                                                                                                                       | 11.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 38                                                                                                                                                                                           | 70                 | 38                 | 88                                   | 63                 | 73                  |
| Įt.  | benz[a]anthracene-7, I 2-dione                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 294                                                                                                                                                                                                                                                               | 270                                                                                                                                                                                                                        | 365                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 246                                                                                                                                                                                          | 251                | 386                | 615                                  | 1870               | 410                 |
| l.   | common and an an an an                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |                    |                    |                                      |                    |                     |
| - 1  | C2720S-13b(H),17a(H)-diasterane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 124                                                                                                                                                                                                                                                               | 143                                                                                                                                                                                                                        | 145                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 774                                                                                                                                                                                          | 742                | 821                | 1140                                 | 797                | 746                 |
| - 19 | C2720R-13b(H),17a(H)-diasterane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 88.0                                                                                                                                                                                                                                                              | 107                                                                                                                                                                                                                        | 122                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 707                                                                                                                                                                                          | 520                | 535                | 776                                  | 542                | 672                 |
| le   | C2720S-13a(H),17b(H)-diasterane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 32.6                                                                                                                                                                                                                                                              | 56.9                                                                                                                                                                                                                       | 66.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 441                                                                                                                                                                                          | 292                | 220                | 430                                  | 320                | 330                 |
|      | C2720R-13a(H),17b(H)-diasterane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 54.7                                                                                                                                                                                                                                                              | 53.2                                                                                                                                                                                                                       | 58.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 533                                                                                                                                                                                          | 467                | 645                | 617                                  | 331                |                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |                    |                    |                                      |                    | 564                 |
|      | C2820S-13b(H),17a(H)-diasterane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 70.2                                                                                                                                                                                                                                                              | 92.4                                                                                                                                                                                                                       | 91.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 485                                                                                                                                                                                          | 442                | 671                | 539                                  | 771                | 582                 |
| - I  | C2720S-5a(H),14a(H), 17a(H)-cholestane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 118                                                                                                                                                                                                                                                               | 152                                                                                                                                                                                                                        | 190                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 342                                                                                                                                                                                          | 115                | 214                | 166                                  | 143                | 126                 |
| le   | C2720R-5a(H),14b(H), 17b(H)-cholestane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 94.9                                                                                                                                                                                                                                                              | 130                                                                                                                                                                                                                        | 210                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2870                                                                                                                                                                                         | 1950               | 1920               | 3070                                 | 1820               | 238                 |
|      | C2720S-58(H),14b(H), 17b(H)-cholestane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 93.9                                                                                                                                                                                                                                                              | 205                                                                                                                                                                                                                        | 98.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1010                                                                                                                                                                                         |                    |                    |                                      |                    |                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              | 822                | 1020               | 1010                                 | 779                | 862                 |
| - 1  | C2920S-13b(H),17a(H)-diasterane + C2720R-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 36.6                                                                                                                                                                                                                                                              | 50.1                                                                                                                                                                                                                       | 45.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2760                                                                                                                                                                                         | 1640               | 2300               | 2620                                 | 1550               | 2520                |
| - 10 | C2820S-5a(H),14a(H), 17a(H)-ergostane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 64.6                                                                                                                                                                                                                                                              | 78.6                                                                                                                                                                                                                       | 79.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 548                                                                                                                                                                                          | 487                | 529                | 418                                  | 385                | 483                 |
| - 1  | C2820R-5a(H),14b(H), 17b(H)-ergostane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 109                                                                                                                                                                                                                                                               | 106                                                                                                                                                                                                                        | 198                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 606                                                                                                                                                                                          | 615                | 725                | 886                                  | 540                | 701                 |
|      | C2820S-5a(H),14b(H), 17b(H)-ergostane + C2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |                    |                    |                                      |                    |                     |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 65.9                                                                                                                                                                                                                                                              | 57.9                                                                                                                                                                                                                       | 93.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 397                                                                                                                                                                                          | 403                | 699                | 928                                  | 428                | 829                 |
| - 19 | C2820R-5a(H),14aa(H), 17a(H)-ergostane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 93.4                                                                                                                                                                                                                                                              | 133                                                                                                                                                                                                                        | 164                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 806                                                                                                                                                                                          | 627                | 907                | 839                                  | 755                | 638                 |
| - le | C2920S-5a(H),14a(H), 17a(H)-stigmastane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 232                                                                                                                                                                                                                                                               | 308                                                                                                                                                                                                                        | 401                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1130                                                                                                                                                                                         | 421                | 685                | 613                                  | 463                | 904                 |
| - 1  | C2920R-5a(H), I4b(H), 17b(H)-stigmastane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 57.3                                                                                                                                                                                                                                                              | 88.3                                                                                                                                                                                                                       | 93.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1850                                                                                                                                                                                         | 1180               | 1720               | 1440                                 | 1090               | 145                 |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |                    |                    |                                      |                    |                     |
|      | C2920S-5a(H),14b(H), 17b(H)-stigmastane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 184                                                                                                                                                                                                                                                               | 190                                                                                                                                                                                                                        | 252                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 695                                                                                                                                                                                          | 639                | 681                | 625                                  | 378                | 730                 |
| - [0 | C2920R-5a(H),14a(H), 17a(H)-stigmastane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 264                                                                                                                                                                                                                                                               | 334                                                                                                                                                                                                                        | 347                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1370                                                                                                                                                                                         | 857                | 1270               | 1120                                 | 804                | 112                 |
|      | C27 -Tetracyclic terpanes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 10.9                                                                                                                                                                                                                                                              | 19.3                                                                                                                                                                                                                       | 31.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 390                                                                                                                                                                                          | 442                | 270                | 514                                  | 417                | 475                 |
|      | C27 -Tetracyclic terpanes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 328                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |                    |                    |                                      |                    |                     |
| - (  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                   | 426                                                                                                                                                                                                                        | 506                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 487                                                                                                                                                                                          | 380                | 775                | 468                                  | 213                | 348                 |
| - 1  | C28 -Tetracyclic terpanes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 307                                                                                                                                                                                                                                                               | 448                                                                                                                                                                                                                        | 546                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 617                                                                                                                                                                                          | 528                | 825                | 544                                  | 302                | 502                 |
| - Je | C28 -Tetracyclic terpanes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 108                                                                                                                                                                                                                                                               | 128                                                                                                                                                                                                                        | 122                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 577                                                                                                                                                                                          | 571                | 669                | 590                                  | 369                | 460                 |
| - 1  | 17a(H), 18a(H),21b(H)-25,28,30-trisnomopan-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 61.8                                                                                                                                                                                                                                                              | 81.8                                                                                                                                                                                                                       | 105                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 487                                                                                                                                                                                          | 532                | 931                | 346                                  | 416                | 622                 |
| - 1  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |                    |                    |                                      |                    |                     |
|      | 17a(H), 21b(H)-22,29,30-trisnomopane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 215                                                                                                                                                                                                                                                               | 302                                                                                                                                                                                                                        | 311                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 2420                                                                                                                                                                                         | 1830               | 2160               | 2740                                 | 2340               | 256                 |
| - 1  | 17a(H), 18a(H),21b(H)-28,30-trisnomopane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 49.6                                                                                                                                                                                                                                                              | 80.5                                                                                                                                                                                                                       | 116                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 394                                                                                                                                                                                          | 290                | 458                | 273                                  | 202                | 458                 |
| - 1  | 17a(H), 21b(H)-30-nomopane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1210                                                                                                                                                                                                                                                              | 1500                                                                                                                                                                                                                       | 1660                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 9370                                                                                                                                                                                         | 7390               | 11300              | 12400                                | 7630               | 967                 |
| - 1  | 18a(H), 21b(H)-30-nomeonopane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 98.0                                                                                                                                                                                                                                                              | 114                                                                                                                                                                                                                        | 118                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 871                                                                                                                                                                                          | 765                | 997                | 1130                                 | 385                | 752                 |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |                    |                    |                                      |                    |                     |
|      | 17a(H), 21b(H)-hopane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1330                                                                                                                                                                                                                                                              | 1810                                                                                                                                                                                                                       | 2010                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 10600                                                                                                                                                                                        | 10000              | 12400              | 14200                                | 8090               | 1064                |
| i    | I7b(H), 21a(H)-hopane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 223                                                                                                                                                                                                                                                               | 291                                                                                                                                                                                                                        | 380                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1430                                                                                                                                                                                         | 1920               | 1450               | 2460                                 | 1200               | 229                 |
| ſ    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Extract I                                                                                                                                                                                                                                                         | Extract 1                                                                                                                                                                                                                  | Extract 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Part. I                                                                                                                                                                                      | Part, I            | Part. 1            | SRM 1649a                            | SRM 1649a          | SRM I               |
| - 1  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Sample I                                                                                                                                                                                                                                                          | Sample 2                                                                                                                                                                                                                   | Sample 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Sample I                                                                                                                                                                                     | Sample 2           | Sample 3           | Sample I                             | Sample 2           | Samp                |
| - 1  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |                    |                    |                                      |                    |                     |
| - 1  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | (ng/g)                                                                                                                                                                                                                                                            | (ng/g)                                                                                                                                                                                                                     | (ng/g)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                              |                    |                    | (ng/g as received)                   |                    |                     |
| - 1  | 2-methylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 61.2                                                                                                                                                                                                                                                              | 56.4                                                                                                                                                                                                                       | 55.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 942                                                                                                                                                                                          | 862                | 852                | 1001                                 | 988                | 97:                 |
| - 1  | I-methylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 32.9                                                                                                                                                                                                                                                              | 30                                                                                                                                                                                                                         | 29.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 475                                                                                                                                                                                          | 443                | 439                | 521                                  | 525                | 518                 |
| - 1  | biphenyl                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 13.4                                                                                                                                                                                                                                                              | 13.5                                                                                                                                                                                                                       | 14.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 202                                                                                                                                                                                          | 192                | 206                | 206                                  | 203                | 206                 |
| ,    | 2,6-dimethylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 12.7                                                                                                                                                                                                                                                              | 12.6                                                                                                                                                                                                                       | 12.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 183                                                                                                                                                                                          | 179                | 179                | 194                                  | 201                | 180                 |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |                    |                    |                                      |                    |                     |
| - 1  | acenaphthylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 5.89                                                                                                                                                                                                                                                              | 6.76                                                                                                                                                                                                                       | 6.58                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 70.8                                                                                                                                                                                         | 78.3               | 72.1               | 78.4                                 | 76.5               | 81.1                |
| - 1  | acenaphthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 12.0                                                                                                                                                                                                                                                              | 12.1                                                                                                                                                                                                                       | 12.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 168                                                                                                                                                                                          | 158                | 175                | 181                                  | 187                | 177                 |
|      | 2,4,5-trimethylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 9.53                                                                                                                                                                                                                                                              | 9.31                                                                                                                                                                                                                       | 9.48                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 127                                                                                                                                                                                          | 128                | 135                | 134                                  | 137                | 137                 |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Extract 1                                                                                                                                                                                                                                                         | Extract 1                                                                                                                                                                                                                  | Extract I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Part. I                                                                                                                                                                                      | Part. 1            | Part. I            | SRM 1649a                            | SRM 1649a          | SRM I               |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Comple 1                                                                                                                                                                                                                                                          | Sample 2                                                                                                                                                                                                                   | Sample 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Sample 1                                                                                                                                                                                     | Sample 2           | Sample 3           | Sample 1                             | Sample 2           | Came!               |
|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Sample 1                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |                    |                    |                                      |                    | Sump                |
|      | Note units are different!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | (µg/mi as received)                                                                                                                                                                                                                                               |                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              | (ng/g as received) | (ng/g as received) | (µg/g as received)                   | (ng/g as received) |                     |
|      | Note units are different!<br>n-C23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                   | (μg/ml as received)<br>1.61                                                                                                                                                                                                | (μg/ml as received)<br>1.70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | (µg/g as received)<br>13.6                                                                                                                                                                   | (ng/g as received) | (ng/g as received) | (μg/g as received)<br>15.7           | (ng/g as received) |                     |
|      | n-C23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | (μg/mi as received)<br>1.62                                                                                                                                                                                                                                       | 1.61                                                                                                                                                                                                                       | 1.70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 13.6                                                                                                                                                                                         | (ng/g as received) | (ng/g as received) | 15.7                                 | (ng/g as received) |                     |
|      | n-C23<br>n-C25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | (μg/mi as received)<br>1.62<br>8.75                                                                                                                                                                                                                               | 1.61<br>8.46                                                                                                                                                                                                               | 1.70<br>9.03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 13.6<br>67.9                                                                                                                                                                                 | (ng/g as received) | (ng/g as received) | 15.7<br>73.8                         | (ng/g as received) |                     |
|      | n-C23<br>n-C25<br>n-C27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | (µg/mi as received)<br>1.62<br>8.75<br>8.76                                                                                                                                                                                                                       | 1.61<br>8.46<br>8.62                                                                                                                                                                                                       | 1.70<br>9.03<br>9.23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 13.6<br>67.9<br>69.2                                                                                                                                                                         | (ng/g as received) | (ng/g as received) | 15.7<br>73.8<br>79.9                 | (ng/g as received) |                     |
|      | n-C23<br>n-C25<br>n-C27<br>n-C29                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | (μg/mi as received) 1.62 8.75 8.76 8.88                                                                                                                                                                                                                           | 1.61<br>8.46                                                                                                                                                                                                               | 1.70<br>9.03                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 13.6<br>67.9                                                                                                                                                                                 | (ng/8 as received) | (ng/g as received) | 15.7<br>73.8<br>79.9<br>72.0         | (ng/g as received) |                     |
|      | n-C23<br>n-C25<br>n-C27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | (µg/mi as received)<br>1.62<br>8.75<br>8.76                                                                                                                                                                                                                       | 1.61<br>8.46<br>8.62                                                                                                                                                                                                       | 1.70<br>9.03<br>9.23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 13.6<br>67.9<br>69.2                                                                                                                                                                         | (ng/g as received) | (ng/g as received) | 15.7<br>73.8<br>79.9                 | (ng/g as received) |                     |
|      | n-C23<br>n-C25<br>n-C27<br>n-C29<br>n-C31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | (μg/mi as received) 1.62 8.75 8.76 8.88 4.92                                                                                                                                                                                                                      | 1.61<br>8.46<br>8.62<br>8.68<br>5.18                                                                                                                                                                                       | 1.70<br>9.03<br>9.23<br>9.08<br>5.30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 13.6<br>67.9<br>69.2<br>64.0<br>37.2                                                                                                                                                         | (ng/g as received) | (ng/g as received) | 15.7<br>73.8<br>79.9<br>72.0<br>37.9 | (ng/g as received) |                     |
|      | n-C23<br>n-C25<br>n-C27<br>n-C29<br>n-C31<br>n-C33                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | (μg/mi as received) 1.62 8.75 8.76 8.88 4.92 1.79                                                                                                                                                                                                                 | 1.61<br>8.46<br>8.62<br>8.68<br>5.18<br>1.87                                                                                                                                                                               | 1.70<br>9.03<br>9.23<br>9.08<br>5.30<br>1.94                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 13.6<br>67.9<br>69.2<br>64.0                                                                                                                                                                 | (ng/g as received) | (ng/g as received) | 15.7<br>73.8<br>79.9<br>72.0         | (ng/g as received) |                     |
|      | n-C23<br>n-C25<br>n-C27<br>n-C29<br>n-C31<br>n-C33<br>1) Only one sample each of SRM1649a and Air                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | (µg/mi as received) 1.62 8.75 8.76 8.88 4.92 1.79 r Particulate I was p                                                                                                                                                                                           | 1.61<br>8.46<br>8.62<br>8.68<br>5.18<br>1.87                                                                                                                                                                               | 1.70<br>9.03<br>9.23<br>9.08<br>5.30<br>1.94                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 13.6<br>67.9<br>69.2<br>64.0<br>37.2<br>13.5                                                                                                                                                 | (ng/g as received) | (ng/g as received) | 15.7<br>73.8<br>79.9<br>72.0<br>37.9 | (ng/g as received) |                     |
|      | n-C23 n-C25 n-C27 n-C29 n-C31 n-C31 n-C33 n-C32 1) Only one sample each of SRM 1649a and Air 2) Each 1.0 ml was removed from the ampoule                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | (µg/ml as received) 1.62 8.75 8.76 8.88 4.92 1.79 r Particulate I was p s: Air Part. Extract I                                                                                                                                                                    | 1.61<br>8.46<br>8.62<br>8.68<br>5.18<br>1.87                                                                                                                                                                               | 1.70<br>9.03<br>9.23<br>9.08<br>5.30<br>1.94                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 13.6<br>67.9<br>69.2<br>64.0<br>37.2<br>13.5                                                                                                                                                 | (ng/g as received) | (ng/g as received) | 15.7<br>73.8<br>79.9<br>72.0<br>37.9 | (ng/g as received) |                     |
|      | n-C23 n-C25 n-C27 n-C29 n-C31 n-C33 1) Only one sample each of SRM1649a and Air 2) Each 1.0 ml was removed from the ampoule 3) n-Alkanes were quantified from C23 to C33.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | (µg/ml as received) 1.62 8.75 8.76 8.88 4.92 1.79 r Particulate I was p s: Air Part. Extract I                                                                                                                                                                    | 1.61<br>8.46<br>8.62<br>8.68<br>5.18<br>1.87                                                                                                                                                                               | 1.70<br>9.03<br>9.23<br>9.08<br>5.30<br>1.94                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 13.6<br>67.9<br>69.2<br>64.0<br>37.2<br>13.5                                                                                                                                                 |                    | (ng/g as received) | 15.7<br>73.8<br>79.9<br>72.0<br>37.9 | (ng/g as received) |                     |
|      | n-C23 n-C25 n-C27 n-C29 n-C31 n-C33 1) Only one sample each of SRM1649a and Air 2) Each 1.0 ml was removed from the ampoule 3) n-Alkanes were quantified from C23 to C33. ND=Not Detected                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | (µg/ml as received) 1.62 8.75 8.76 8.88 4.92 1.79 r Particulate I was p s: Air Part. Extract I                                                                                                                                                                    | 1.61<br>8.46<br>8.62<br>8.68<br>5.18<br>1.87<br>processed and analyz                                                                                                                                                       | 1.70<br>9.03<br>9.23<br>9.08<br>5.30<br>1.94                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 13.6<br>67.9<br>69.2<br>64.0<br>37.2<br>13.5                                                                                                                                                 | (ng/g as received) | (ng/g as received) | 15.7<br>73.8<br>79.9<br>72.0<br>37.9 | (ng/g as received) |                     |
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|      | n-C23 n-C25 n-C27 n-C29 n-C31 n-C33 1) Only one sample each of SRM1649a and Air 2) Each 1.0 ml was removed from the ampoule 3) n-Alkanes were quantified from C23 to C33. ND=Not Detected BD(xxx)= Below Detection limit. Xxx is the d XX* = There is obviously a coeluting PAH wit because the concentrations measured a We determined the extraction efficiency based To calculate the actual loading of compounds in The calculated results are presented below                                                                                                                                                                                                                            | (µg/ml as received) 1.62 8.75 8.76 8.88 4.92 1.79 Particulate I was p s: Air Part. Extract I detection limit in ng/gl th dibenz[a,h]anhtras upon the ratio of ou n the air particulate extraction efficience                                                      | I.61 8.46 8.62 8.68 5.18 1.87 roccessed and analyz. I. Ampoules 111, 18 g cene to expected r average results for sample I, we correct (ng/g as received) normalized not determined                                         | 1.70 9.03 9.23 9.08 5.30 1.94 ted. 19, and 207and analyzed the average result. Air Particulate 1 Sample 2 (ng/g as received) normalized not determined                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 13.6 67.9 69.2 64.0 37.2 13.5 13.5 rzed as received.  ve to standard referer ts based upon this exi Air Particulate 1 Sample 3 (ng/g as received) normalized not determined                  | ice values         | (ng/g as received) | 15.7<br>73.8<br>79.9<br>72.0<br>37.9 | (ng/g as received) |                     |
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|      | n-C23 n-C25 n-C25 n-C27 n-C29 n-C31 n-C31 n-C33 1) Only one sample each of SRM1649a and Air 2) Each 1.0 ml was removed from the ampoules 3) n-Alkanes were quantified from C23 to C33 ND=Not Detected BD(xxx)= Below Detection limit. Xxx is the d XX* = There is obviously a cocluting PAH with because the concentrations measured a We determined the extraction efficiency based. To calculate the actual loading of compounds in the calculated results are presented below  naphthalene fluorene phenanthrene l-methylphenanthrene l-methylphenanthrene 2-methylphenanthrene 3-methylphenanthrene 9-methylphenanthrene retene                                                           | (µg/ml as received) 1.62 8.75 8.76 8.88 4.92 1.79 r Particulate 1 was p s: Air Part. Extract 1 etection limit in ng/g th dibenz[a,h]anthrac re twice higher than upon the ratio of ou n the air particulate : extraction efficienc  not determined 45.46 98.81    | I.61 8.46 8.62 8.68 5.18 1.87 Processed and analyz. I. Ampoules 111, 18  g cene to expected r average results for sample I, we correct (ng/g as received) normalized not determined 176.5 3429 395.5                       | 1.70 9.03 9.23 9.08 5.30 1.94 sed. 19, and 207and analyzed the average result Air Particulate 1 Sample 2 (ng/g as received) normalized not determined 229.6 3784 437.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 13.6 67.9 69.2 64.0 37.2 13.5 13.5 rzed as received.  ve to standard referer ts based upon this exi Air Particulate 1 Sample 3 (ng/g as received) normalized not determined 164.8 3197 329.2 | ice values         | (ng/g as received) | 15.7<br>73.8<br>79.9<br>72.0<br>37.9 | (ng/g as received) | Sample (ng/g as rec |

Air Particulate Extract I and Air Particulate I

| Improvement   14.33   30.3   30.0   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5   30.5     | ch  | yelopenta[cd]pyrene                                                                                          | 0444                                                                                                                             |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| International Content                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | - 1 | enz(a)anthracene                                                                                             | 84.65<br>85.33                                                                                                                   | 1885                                                                                                                              | 2075                                                                                                                           | 2411                                                                                                                                    |                                                                                                                                                   |                                                                                                                                                | •           |
| Secretary   1977   1978   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   1979   19   | tri |                                                                                                              | 83.33                                                                                                                            |                                                                                                                                   | 3060                                                                                                                           | 3076                                                                                                                                    |                                                                                                                                                   |                                                                                                                                                |             |
| Security (Continue)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1   |                                                                                                              | 89.77                                                                                                                            | 6398                                                                                                                              | 6579                                                                                                                           | 6494                                                                                                                                    |                                                                                                                                                   |                                                                                                                                                |             |
| Immediate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| Image   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997   1997     | - 1 |                                                                                                              | 81.11                                                                                                                            | 1844                                                                                                                              | 1960                                                                                                                           | 1761                                                                                                                                    |                                                                                                                                                   |                                                                                                                                                |             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |                                                                                                              | 78.16                                                                                                                            | 2190                                                                                                                              | 7407                                                                                                                           | 7781                                                                                                                                    |                                                                                                                                                   |                                                                                                                                                |             |
| Manufacture   1.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |     |                                                                                                              | , 4.10                                                                                                                           |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| Secretary Systems                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.  |                                                                                                              | 85.08                                                                                                                            | 3216                                                                                                                              | 3477                                                                                                                           | 3280                                                                                                                                    |                                                                                                                                                   |                                                                                                                                                |             |
| Semental primary   Company   Compa   | be  | enzo[ghi]perylene                                                                                            |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |                                                                                                              | not determined                                                                                                                   | not determined                                                                                                                    | not determined n                                                                                                               | ot determined                                                                                                                           |                                                                                                                                                   |                                                                                                                                                |             |
| Decession   Company   Co   | - 1 |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| Secretary Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secretary   Secret   |     |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| Sample 1   Sample 2   Sample 3   Sample 3   Sample 2   Sample 3   Sample 4    | di  | libenzo[a,e]pyrene                                                                                           |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| Language (minished)   Bit      | Pi  | "henols                                                                                                      | Air Particulate I                                                                                                                | Air Particulate I                                                                                                                 | Air Particulate I S                                                                                                            | RM 1649a                                                                                                                                | SRM 1649a                                                                                                                                         | SRM 1649a                                                                                                                                      |             |
| Language (minished)   Bit      |     |                                                                                                              | Sample 1                                                                                                                         | Sample ?                                                                                                                          | Sample 7                                                                                                                       | izmole I                                                                                                                                | Sample ?                                                                                                                                          | Samale 7                                                                                                                                       |             |
| Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Section   Sect   | A   |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal ## Seminal  | - 1 |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| Second   O.M.    | Sa  | Sample Jar number                                                                                            | #313                                                                                                                             | #313                                                                                                                              | #313                                                                                                                           |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| Second   O.M.    |     | shared                                                                                                       | 0.11                                                                                                                             | 0.11                                                                                                                              | 0.14                                                                                                                           |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| Screen   0.02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.  |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| Disease   Upstace   Upst   | - 1 |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| Debenda plymene (191-0-0)   256   120   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170   170      | - 1 |                                                                                                              | 0.02                                                                                                                             |                                                                                                                                   | 0.05                                                                                                                           | 1.31                                                                                                                                    |                                                                                                                                                   |                                                                                                                                                |             |
| Obbinition (a) (100-00-000)   Cardia (100-00-000)   Cardia (100-00-000)   Cardia (100-00-000)   Cardia (100-00-000)   Cardia (100-00-000)   Cardia (100-00-000)   Cardia (100-00-000)   Cardia (100-00-000)   Cardia (100-00-000)   Cardia (100-00-000)   Cardia (100-00-000)   Cardia (100-00-000)   Cardia (100-000-000)   Cardia (100-000-000)   Cardia (100-000-000)   Cardia (100-000-000-000)   Cardia (100-000-000-000-000-000-000-000-000-000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |                                                                                                              |                                                                                                                                  |                                                                                                                                   | S                                                                                                                              |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| COMMENTS:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | - 1 |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |                                                                                                              | <936                                                                                                                             | · · · · · · · · · · · · · · · · · · ·                                                                                             |                                                                                                                                | <11/0                                                                                                                                   |                                                                                                                                                   |                                                                                                                                                |             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |                                                                                                              | C29. n-C30. n-C31.                                                                                                               | n-C32: many of the                                                                                                                | reported values exce                                                                                                           | ed the limit of the c                                                                                                                   | calibration (approxim                                                                                                                             | nately 8330 ng/g).                                                                                                                             |             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | - 1 |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                | 30 ng/g).                                                                                                                               |                                                                                                                                                   |                                                                                                                                                |             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| SSD for abrite soid curve (surregreepouts feators) 190%; bits on all points of abetic soid curve (surregreepouts) feators) 190%; surregreepouts (surregreepouts) 190%; surregreepouts) 190%; surregreepouts) 190%; surregreepouts) 190%; surregreepouts) 190%; surregreepouts) 190%; surregreepouts) 190%; surre   |     |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| Probable interference secondary into thesis standards for a thresis and \$4.25 means are recommended by the probable interference secondary into \$25 means are recommended by the probable interference secondary into \$25 means are recommended by the probable interference secondary into this table were the data of \$6.7FID.    Carbonyls (Alkan-2-ones)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |     |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         | ion curve;                                                                                                                                        |                                                                                                                                                |             |
| Promishe interference: secondary jone 25% systems from primary ion.   Analyst. Instr.   Both the GC/FID and GC/MSD were used for the analysis of n-alicanes and ketiones.   The most RSD% of n-alicanes, alikan-2-one and other compounds were bigger in the GC/MSD than in the GC/FID.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1   |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| Analyt. Instr. Both the GCFID and GCMSD were used for the analysis of n-alizanes and ketones. The most RSD/6 of-alizanes, alizan-2-one and other compounds were bigger in the GCMSD than in the GCFID.  Carbonyls (Alkan-2-ones) Air Particulate I Air Particulate I SRM 1649a SRM 1649a SRM 1649a  Sample I Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 3 Sample 1 Sample 3 Sample 1 Sample 3 Sample 1 Sample 3 Sample 1 Sample 3 Sample 1 Sample 3 Sample 1 Sample 3 Sample 1 Sample 3 Sample 1 Sample 3 Sample 1 Sample 3 Sample 1 Sample 3 Sample 1 Sample 3 Sample 1 Sample 3 Sample 1 Sample 3 Sample 3 Sample 1 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 |     |                                                                                                              |                                                                                                                                  |                                                                                                                                   | MINAL COUCCULATION                                                                                                             | is.                                                                                                                                     |                                                                                                                                                   |                                                                                                                                                |             |
| The most RSDNs of n-alizanes, alizane2-one and other compounds were bigger in the GCMSD than in the GCFID. Data shown in this table were the data of GCFID.  Carbonyls (Alkan-2-ones)  Air Particulate I Air Particulate I SRM 1649a  SRM 1649a  SRM 1649a  SRM 1649a  SRM 1649a  SRM 1649a  SRM 1649a  Analyst (Initiats)  ye ye ye ye ye ye ye ye ye ye ye ye ye y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 7   |                                                                                                              |                                                                                                                                  |                                                                                                                                   | were used for the                                                                                                              | analysis of n-all                                                                                                                       | kanes and ketone                                                                                                                                  | is.                                                                                                                                            |             |
| Carbonyls (Alkan-2-ones)  Air Particulate I Air Particulate I SRM 1649a  Sample 1  Sample 2  Sample 3  Ye ye ye ye ye ye ye ye ye ye ye ye ye ye                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |     |                                                                                                              | The most RSD9                                                                                                                    | of n-alkanes, al                                                                                                                  | kan-2-one and oth                                                                                                              | her compounds                                                                                                                           |                                                                                                                                                   |                                                                                                                                                | the GC/FID. |
| Analyst (Initials)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |     |                                                                                                              | Data shown in                                                                                                                    | this table were th                                                                                                                | e data of GC/FID                                                                                                               | ١.                                                                                                                                      |                                                                                                                                                   |                                                                                                                                                |             |
| Analyst (Initials)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |     | Carbanula (Allina 2                                                                                          | A in Daniel and a second                                                                                                         | Ada Danet - 1-1                                                                                                                   | A in Dani to                                                                                                                   | CD) ( 1640                                                                                                                              | CD3/ 1640                                                                                                                                         | CD) / 1640                                                                                                                                     |             |
| Analyst (Initials)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 10  | Carbonyis (Aikan-2-ones)                                                                                     | Air Particulate I                                                                                                                | Air ramiculate l                                                                                                                  | Air Particulate I                                                                                                              | 3KM 1649a                                                                                                                               | 3KM 16498                                                                                                                                         | SKM 1649a                                                                                                                                      |             |
| Analyst (Initials)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |     |                                                                                                              | Sample 1                                                                                                                         | Sample 2                                                                                                                          | Sample 3                                                                                                                       | Sample 1                                                                                                                                | Sample 2                                                                                                                                          | Sample 3                                                                                                                                       |             |
| Date(s) of measurements (m/d/y)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | A   | Analyst (Initials)                                                                                           |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| Air Particulate I Air Particulate I Air Particulate I SRM 1649a SRM 1649a Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 (ng/g as received ng/g as |     |                                                                                                              | 11/10/02                                                                                                                         | 11/10/02                                                                                                                          |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| Sample 1   Sample 2   Sample 3   Sample 3   Sample 3   Sample 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | S   | Sample Jar number                                                                                            | #331                                                                                                                             | #331                                                                                                                              | #331                                                                                                                           |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| Sample 1   Sample 2   Sample 3   Sample 3   Sample 3   Sample 3   Sample 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     |                                                                                                              | Air Particulate 1                                                                                                                | Air Particulate I                                                                                                                 | Air Particulate 1                                                                                                              | SRM 1640a                                                                                                                               | SRM 1640a                                                                                                                                         | SRV/ 1640a                                                                                                                                     |             |
| (ng/g as received ng/g  |     |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| 2-C15 221.22 76.12 266.12 341.95 219.47 251.85 2-C16 84.9 180.34 148.34 271.10 157.17 172.28 2-C17 243.06 296.35 323.25 444.35 587.78 589.89 2-C18 217.04 241.71 254.57 130.68 117.49 104.34 2-C19 313.65 163.70 188.78 284.52 245.20 237.85 2-C20 144.81 224.33 184.59 297.46 173.08 165.17 2-C21 105.32 260.71 152.64 256.66 281.26 198.21 2-C22 13.16 0.00 14.20 135.80 115.39 72.68 2-C23 164.56 121.26 177.49 303.92 302.89 218.03 2-C24 934.70 1133.79 706.39 1797.68 1976.02 1625.30 2-C25 190.89 187.95 191.68 465.59 670.69 436.06 2-C26 164.56 181.89 220.08 129.33 180.29 184.99 2-C27 197.47 321.34 181.04 433.25 512.03 317.13 2-C28 1119.01 1376.31 894.53 1480.82 1752.46 1770.65 2-C29 895.21 666.93 653.15 1364.22 1139.46 984.43 2-C30 368.62 321.34 124.24 103.46 165.87 151.96 2-C31 638.49 794.26 511.16 1235.09 1240.42 898.54  Alkanes and Alkenes  Air Particulate I Air Particulate I Air Particulate I SRM 1649a SRM 1649a  Sample I Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 2 Sample 3 Sample 2 Sample 3 Sample 2 Sample 3 Sample 2 Sample 3 Sample 2 Sample 3 Sample 2 Sample 3 Sample 2 Sample 3 Sample 2 Sample 3 Sample 2 Sample 3 Sample 2 Sample 3 Sample 3 Sample 2 Sample 3 Sample 2 Sample 3 Sample 3 Sample 2 Sample 3 Sample 3 Sample 2 Sam |     |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| 2-C17 243.06 296.35 323.25 444.35 587.78 589.89  2-C18 217.04 241.71 254.57 130.68 117.49 104.34  2-C19 131.65 163.70 198.78 284.52 245.20 237.85  2-C20 144.81 224.33 184.59 297.46 173.08 165.17  2-C21 105.32 260.71 152.64 258.66 281.26 198.21  2-C22 131.6 0.00 14.20 135.80 115.39 72.68  2-C22 13.16 0.00 14.20 135.80 115.39 72.68  2-C23 164.56 121.26 177.49 303.92 302.89 218.03  2-C24 393.470 1133.79 706.39 1797.68 1976.02 1625.30  2-C25 190.89 187.95 191.68 465.59 670.69 436.06  2-C26 164.56 181.89 220.08 128.33 180.29 184.99  2-C27 197.47 321.34 181.04 433.25 512.03 317.13  2-C28 1119.01 1376.31 884.53 1480.82 1752.46 1770.65  2-C29 895.21 666.93 653.15 1364.42 1139.46 984.43  2-C30 368.62 321.34 124.24 103.46 165.87 151.96  2-C31 638.49 794.26 511.16 1235.09 1240.42 898.54  Alkanes and Alkenes Air Particulate I Air Particulate I SRM 1649a SRM 1649a  Analyst (Initials) yc yc yc yc yc yc yc yc  2-C27 190.89 Sample I Sample 2 Sample 3 Sample 1 Sample 2 Sample 3  Analyst (Initials)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     | 2-C15                                                                                                        | 221.22                                                                                                                           | 276.12                                                                                                                            | 266.12                                                                                                                         | 341.95                                                                                                                                  | 219.47                                                                                                                                            | 251.85                                                                                                                                         |             |
| 2-C18 217.04 241.71 254.57 130.68 117.49 104.34 2-C19 131.55 163.70 198.78 284.52 245.20 237.85 2-C20 144.81 224.33 184.59 297.46 173.08 165.17 2-C21 105.32 260.71 152.64 256.66 281.26 198.21 2-C22 13.16 0.00 14.20 135.80 115.39 72.68 2-C23 164.56 121.26 177.49 303.92 302.89 218.03 2-C24 934.70 133.79 706.39 1797.88 1976.02 1625.30 2-C25 199.89 187.95 191.68 465.59 176.02 1625.30 2-C26 164.56 181.89 220.08 129.33 180.29 184.99 2-C27 197.47 321.34 181.04 433.25 512.03 317.13 2-C28 1119.01 1376.31 894.53 1480.82 1775.246 1775.246 1777.05 2-C29 895.21 666.93 653.15 1384.42 1139.46 984.43 2-C30 368.52 321.34 124.24 103.46 165.87 151.96 2-C31 638.49 794.26 511.16 1235.09 1240.42 898.54 6.10,14-trimethylpentadecano-2-one 190.89 309.21 273.33 459.12 591.36 429.45  Alikanes and Alikenes Air Particulate I Air Particulate I Air Particulate I SRM 1649a SRM 1649a  Analyst (Initials) Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 (ng/g as received ng/g as re |     |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| 2-C19 131.65 163.70 198.78 284.52 245.20 237.85 2-C20 144.81 224.33 184.59 297.46 173.08 165.17 2-C21 105.32 260.71 152.64 255.66 281.26 198.21 2-C22 13.16 0.00 14.20 135.80 115.39 72.68 2-C23 164.56 121.26 177.49 303.92 302.89 218.03 2-C24 934.70 1133.79 706.39 1797.68 1976.02 1625.30 2-C25 190.89 187.95 191.68 465.59 670.69 436.06 2-C26 164.56 181.89 220.08 129.33 180.29 184.99 2-C27 197.47 321.34 181.04 433.25 512.03 317.13 2-C28 1119.01 1376.31 894.53 1480.82 1752.46 1770.65 2-C29 895.21 666.93 653.15 1364.42 1139.46 984.43 2-C30 368.62 321.34 124.24 103.46 155.87 151.96 2-C31 638.49 794.26 511.16 1235.09 1240.42 898.54 6,10,14-trimethylpentadecano-2-one 190.89 309.21 273.33 459.12 591.36 429.45  Alkanes and Alkenes Air Particulate I Air Particulate I SRM 1649a SRM 1649a  Analyst (Initials) yc yc yc yc yc yc yc yc yc yc yc yc yc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| 2-C20 144.81 224.33 184.59 297.46 173.08 165.17 2-C21 105.32 260.71 152.64 256.66 281.26 198.21 2-C22 13.16 0.00 14.20 135.80 115.39 72.68 2-C23 164.56 121.26 177.49 303.92 302.89 218.03 2-C24 934.70 1133.79 706.39 1797.68 1976.02 1625.30 2-C25 190.89 187.95 191.68 465.59 670.69 436.06 2-C26 164.56 181.89 220.08 129.33 180.29 184.99 2-C27 197.47 321.34 181.04 433.25 512.03 317.13 2-C28 1119.01 1376.31 894.53 1480.82 1752.46 1770.65 2-C29 895.21 666.93 653.15 1364.42 1139.46 984.43 2-C30 368.62 321.34 124.24 103.46 155.87 151.96 2-C31 638.49 794.26 511.16 1235.09 1240.42 898.54 6.10,14-trimethylpentadecano-2-one 190.89 309.21 273.33 459.12 591.36 429.45  Alkanes and Alkenes Air Particulate I Air Particulate I SRM 1649a SRM 1649a  Analyst (Initials) Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Vyc yc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| 2-C21 105.32 260.71 152.64 258.66 281.26 198.21 2-C22 13.16 0.00 14.20 135.80 115.39 72.68 2-C33 164.56 121.26 177.49 303.92 302.89 218.03 2-C24 934.70 1133.79 706.39 1797.68 1976.02 1625.30 2-C25 190.89 187.95 191.68 465.59 670.69 436.06 2-C26 164.56 181.89 220.08 129.33 180.29 184.99 2-C27 197.47 321.34 181.04 433.25 512.03 317.13 2-C28 1119.01 1376.31 894.53 1480.82 1752.46 1770.65 2-C29 895.21 666.93 653.15 1364.42 1139.46 984.43 2-C30 368.62 321.34 124.24 103.46 165.87 151.96 2-C31 638.49 794.26 511.16 1235.09 1240.42 898.54 6,10,14-trimethylpentadecano-2-one 190.89 309.21 273.33 459.12 591.36 429.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.46 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 49.45 | 1   |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |
| 2-C22 13.16 0.00 14.20 135.80 115.39 72.68 2-C23 164.56 121.26 177.49 303.92 302.89 218.03 2-C24 934.70 1133.79 706.39 1797.68 1976.02 1625.30 2-C25 190.89 187.95 191.68 465.59 670.69 436.06 2-C26 164.56 181.89 220.08 129.33 180.29 184.99 2-C27 197.47 321.34 181.04 433.25 512.03 317.13 2-C28 1119.01 1376.31 894.53 1480.82 1752.46 1770.65 2-C29 895.21 666.93 653.15 1364.42 1139.46 984.43 2-C30 368.62 321.34 124.24 103.46 165.87 151.96 2-C31 638.49 794.26 511.16 1235.09 1240.42 898.54 6,10,14-trimethylpentadecano-2-one 190.89 309.21 273.33 459.12 591.36 429.45  Alkanes and Alkenes Air Particulate I Air Particulate I SRM 1649a SRM 1649a  Analyst (Initials) ye ye ye ye ye ye ye ye ye ye ye ye ye                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                | ∠31.40                                                                                                                                  |                                                                                                                                                   |                                                                                                                                                |             |
| 2-C23 164.56 121.26 177.49 303.92 302.89 218.03 2-C24 934.70 1133.79 706.39 1797.68 1976.02 1625.30 2-C25 190.89 187.95 191.68 465.59 670.69 436.06 2-C26 164.56 181.89 220.08 129.33 180.29 184.99 2-C27 197.47 321.34 181.04 433.25 512.03 317.13 2-C28 1119.01 1376.31 894.53 1480.82 1752.46 1770.65 2-C29 895.21 666.93 653.15 1364.42 1139.46 984.43 2-C30 368.62 321.34 124.24 103.46 165.87 151.96 2-C31 638.49 794.26 511.16 1235.09 1240.42 898.54 6,10,14-trimethylpentadecano-2-one 190.89 309.21 273.33 459.12 591.36 429.45  Alkanes and Alkenes Air Particulate I Air Particulate I SRM 1649a SRM 1649a  Analyst (Initials) yc yc yc yc yc yc yc yc yc yc yc yc yc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |                                                                                                              | 100.02                                                                                                                           |                                                                                                                                   |                                                                                                                                | 258 66                                                                                                                                  |                                                                                                                                                   |                                                                                                                                                |             |
| 2-C24 934.70 1133.79 706.39 1797.68 1976.02 1625.30 2-C25 190.89 187.95 191.68 465.59 670.69 436.06 2-C26 164.56 181.89 220.08 129.33 180.29 184.99 2-C27 197.47 321.34 181.04 433.25 512.03 317.13 2-C28 1119.01 1376.31 894.53 1480.82 1752.46 1770.65 2-C29 895.21 666.93 653.15 1364.42 1139.46 984.43 2-C30 368.62 321.34 124.24 103.46 155.87 151.96 2-C31 638.49 794.26 511.16 1235.09 1240.42 898.54 6,10,14-trimethylpentadecano-2-one 190.89 309.21 273.33 459.12 591.36 429.45  Alkanes and Alkenes Air Particulate I Air Particulate I SRM 1649a SRM 1649a  Sample I Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 3 Sample 1 Sample 2 Sample 3 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3  |     | 7_177                                                                                                        | 13 16                                                                                                                            |                                                                                                                                   |                                                                                                                                |                                                                                                                                         | 281-26                                                                                                                                            | 198.21                                                                                                                                         |             |
| 2-C25 190.89 187.95 191.68 465.59 670.69 436.06 2-C26 164.56 181.89 220.08 129.33 180.29 184.99 2-C27 197.47 321.34 181.04 433.25 512.03 317.13 2-C28 1119.01 1376.31 894.53 1480.82 1752.46 1770.65 2-C29 895.21 666.93 653.15 1364.42 1139.46 984.43 2-C30 368.62 321.34 124.24 103.46 165.87 151.96 2-C31 638.49 794.26 511.16 1235.09 1240.42 898.54 6,10,14-trimethylpentadecano-2-one 190.89 309.21 273.33 459.12 591.36 429.45  Alkanes and Alkenes Air Particulate I Air Particulate I SRM 1649a SRM 1649a  Sample I Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Analyst (Initials) yc yc yc yc yc yc yc yc yc yc yc yc yc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |                                                                                                              |                                                                                                                                  | 0.00                                                                                                                              | 14.20                                                                                                                          | 135.80                                                                                                                                  | 281 <sub>-</sub> 26<br>115.39                                                                                                                     | 198.21<br>72.68                                                                                                                                |             |
| 2-C27 197.47 321.34 181.04 433.25 512.03 317.13 2-C28 1119.01 1376.31 894.53 1480.82 1752.46 1770.65 2-C29 895.21 666.93 653.15 1364.42 1139.46 984.43 2-C30 368.62 321.34 124.24 103.46 165.87 151.96 2-C31 638.49 794.26 511.16 1235.09 1240.42 898.54 6,10,14-trimethylpentadecano-2-one 190.89 309.21 273.33 459.12 591.36 429.45  Alkanes and Alkenes Air Particulate I Air Particulate I SRM 1649a SRM 1649a  Sample I Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Samp |     | 2-C23                                                                                                        | 164.56                                                                                                                           | 0.00<br>121.26                                                                                                                    | 14.20<br>177.49                                                                                                                | 135.80<br>303.92                                                                                                                        | 281.26<br>115.39<br>302.89                                                                                                                        | 198.21<br>72.68<br>218.03                                                                                                                      |             |
| 2-C28 1119.01 1376.31 894.53 1480.82 1752.46 1770.65 2-C29 895.21 666.93 653.15 1364.42 1139.46 984.43 2-C30 368.62 321.34 124.24 103.46 165.87 151.96 2-C31 638.49 794.26 511.16 1235.09 1240.42 898.54 6,10,14-trimethylpentadecano-2-one 190.89 309.21 273.33 459.12 591.36 429.45  Alkanes and Alkenes Air Particulate I Air Particulate I SRM 1649a SRM 1649a SRM 1649a  Sample I Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample |     | 2-C23<br>2-C24<br>2-C25                                                                                      | 164.56<br>934.70<br>190.89                                                                                                       | 0.00<br>121.26<br>1133.79<br>187.95                                                                                               | 14.20<br>177.49<br>706.39<br>191.68                                                                                            | 135.80<br>303.92<br>1797.68<br>465.59                                                                                                   | 281.26<br>115.39<br>302.89<br>1976.02<br>670.69                                                                                                   | 198.21<br>72.68<br>218.03<br>1625.30<br>436.06                                                                                                 |             |
| 2-C29 895.21 666.93 653.15 1364.42 1139.46 984.43 2-C30 368.62 321.34 124.24 103.46 165.87 151.96 2-C31 638.49 794.26 511.16 1235.09 1240.42 898.54 6,10,14-trimethylpentadecano-2-one 190.89 309.21 273.33 459.12 591.36 429.45  Alkanes and Alkenes Air Particulate I Air Particulate I SRM 1649a SRM 1649a SRM 1649a  Sample I Sample 2 Sample 3 Sample I Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Analyst (Initials) ye ye ye ye ye ye ye ye ye ye ye ye ye                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     | 2-C23<br>2-C24<br>2-C25<br>2-C26                                                                             | 164.56<br>934.70<br>190.89<br>164.56                                                                                             | 0.00<br>121.26<br>1133.79<br>187.95<br>181.89                                                                                     | 14.20<br>177.49<br>706.39<br>191.68<br>220.08                                                                                  | 135.80<br>303.92<br>1797.68<br>465.59<br>129.33                                                                                         | 281.26<br>115.39<br>302.89<br>1976.02<br>670.69<br>180.29                                                                                         | 198.21<br>72.68<br>218.03<br>1625.30<br>436.06<br>184.99                                                                                       |             |
| 2-C30 368.62 321.34 124.24 103.46 165.87 151.96 2-C31 638.49 794.26 511.16 1235.09 1240.42 898.54 6,10,14-trimethylpentadecano-2-one 190.89 309.21 273.33 459.12 591.36 429.45  Alkanes and Alkenes Air Particulate I Air Particulate I SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM  |     | 2-C23<br>2-C24<br>2-C25<br>2-C25<br>2-C26<br>2-C27                                                           | 164.56<br>934.70<br>190.89<br>164.56<br>197.47                                                                                   | 0.00<br>121.26<br>1133.79<br>187.95<br>181.89<br>321.34                                                                           | 14.20<br>177.49<br>706.39<br>191.68<br>220.08<br>181.04                                                                        | 135.80<br>303.92<br>1797.68<br>465.59<br>129.33<br>433.25                                                                               | 281.26<br>115.39<br>302.89<br>1976.02<br>670.69<br>180.29<br>512.03                                                                               | 198.21<br>72.68<br>218.03<br>1625.30<br>436.06<br>184.99<br>317.13                                                                             |             |
| 2-C31 638.49 794.26 511.16 1235.09 1240.42 898.54 6,10,14-trimethylpentadecano-2-one 190.89 309.21 273.33 459.12 591.36 429.45  Alkanes and Alkenes Air Particulate I Air Particulate I SRM 1649a SRM 1649a SRM 1649a  Sample I Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 1 Sample 2 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Samp |     | 2-C23<br>2-C24<br>2-C25<br>2-C26<br>2-C27<br>2-C28                                                           | 164.56<br>934.70<br>190.89<br>164.56<br>197.47<br>1119.01                                                                        | 0.00<br>121.26<br>1133.79<br>187.95<br>181.89<br>321.34<br>1376.31                                                                | 14.20<br>177.49<br>706.39<br>191.68<br>220.08<br>181.04<br>894.53                                                              | 135.80<br>303.92<br>1797.68<br>465.59<br>129.33<br>433.25<br>1480.82                                                                    | 281.26<br>115.39<br>302.89<br>1976.02<br>670.69<br>180.29<br>512.03<br>1752.46                                                                    | 198.21<br>72.68<br>218.03<br>1625.30<br>436.06<br>184.99<br>317.13<br>1770.65                                                                  |             |
| Alkanes and Alkenes  Air Particulate I Air Particulate I Air Particulate I SRM 1649a  SRM 1649a  SRM 1649a  SRM 1649a  SRM 1649a  SRM 1649a  Analyst (Initials)  ye ye ye ye ye ye ye ye ye ye ye ye ye                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     | 2-C23<br>2-C24<br>2-C25<br>2-C26<br>2-C27<br>2-C28<br>2-C29                                                  | 164.56<br>934.70<br>190.89<br>164.56<br>197.47<br>1119.01<br>895.21                                                              | 0.00<br>121.26<br>1133.79<br>187.95<br>181.89<br>321.34<br>1376.31<br>666.93                                                      | 14.20<br>177.49<br>706.39<br>191.68<br>220.08<br>181.04<br>894.53<br>653.15                                                    | 135.80<br>303.92<br>1797.68<br>465.59<br>129.33<br>433.25<br>1480.82<br>1364.42                                                         | 281.26<br>115.39<br>302.89<br>1976.02<br>670.69<br>180.29<br>512.03<br>1752.46<br>1139.46                                                         | 198.21<br>72.68<br>218.03<br>1625.30<br>436.06<br>184.99<br>317.13<br>1770.65<br>984.43                                                        |             |
| Alkanes and Alkenes  Air Particulate I Air Particulate I SRM 1649a  SRM 1649a  SRM 1649a  SRM 1649a  SRM 1649a  SRM 1649a  SRM 1649a  SRM 1649a  SRM 1649a  SRM 1649a  SRM 1649a  Analyst (Initials)  yc yc yc yc yc yc yc yc yc yc yc yc yc y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     | 2-C23<br>2-C24<br>2-C25<br>2-C26<br>2-C27<br>2-C28<br>2-C29<br>2-C30                                         | 164.56<br>934.70<br>190.89<br>164.56<br>197.47<br>1119.01<br>895.21<br>368.62                                                    | 0.00<br>121.26<br>1133.79<br>187.95<br>181.89<br>321.34<br>1376.31<br>666.93<br>321.34                                            | 14.20<br>177.49<br>706.39<br>191.68<br>220.08<br>181.04<br>894.53<br>653.15<br>124.24                                          | 135.80<br>303.92<br>1797.68<br>465.59<br>129.33<br>433.25<br>1480.82<br>1364.42<br>103.46                                               | 281.26<br>115.39<br>302.89<br>1976.02<br>670.69<br>180.29<br>512.03<br>1752.46<br>1139.46<br>165.87                                               | 198.21<br>72.68<br>218.03<br>1625.30<br>436.06<br>184.99<br>317.13<br>1770.65<br>984.43<br>151.96                                              |             |
| Sample 1   Sample 2   Sample 3   Sample 2   Sample 3   Sample 2   Sample 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     | 2-C23<br>2-C24<br>2-C25<br>2-C25<br>2-C27<br>2-C28<br>2-C29<br>2-C30<br>2-C31                                | 164.56<br>934.70<br>190.89<br>164.56<br>197.47<br>1119.01<br>895.21<br>368.62<br>638.49                                          | 0.00<br>121.26<br>1133.79<br>187.95<br>181.89<br>321.34<br>1376.31<br>666.93<br>321.34<br>794.26                                  | 14.20<br>177.49<br>706.39<br>191.68<br>220.08<br>181.04<br>894.53<br>653.15<br>124.24<br>511.16                                | 135.80<br>303.92<br>1797.68<br>465.59<br>129.33<br>433.25<br>1480.82<br>1364.42<br>103.46<br>1235.09                                    | 281.26<br>115.39<br>302.89<br>1976.02<br>670.69<br>180.29<br>512.03<br>1752.46<br>1139.46<br>165.87<br>1240.42                                    | 198.21<br>72.68<br>218.03<br>1625.30<br>436.06<br>184.99<br>317.13<br>1770.65<br>984.43<br>151.96<br>898.54                                    |             |
| Analyst (Initials) ye ye ye ye ye ye ye ye ye ye ye ye ye                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     | 2-C23 2-C24 2-C25 2-C26 2-C27 2-C28 2-C29 2-C30 2-C31 6,10,14-trimethylpentadecano-2-one                     | 164.56<br>934.70<br>190.89<br>164.56<br>197.47<br>1119.01<br>895.21<br>368.62<br>638.49<br>190.89                                | 0.00<br>121.26<br>1133.79<br>187.95<br>181.89<br>321.34<br>1376.31<br>666.93<br>321.34<br>794.26<br>309.21                        | 14.20<br>177.49<br>706.39<br>191.68<br>220.08<br>181.04<br>894.53<br>653.15<br>124.24<br>511.16<br>273.33                      | 135.80<br>303.92<br>1797.68<br>465.59<br>129.33<br>433.25<br>1480.82<br>1364.42<br>103.46<br>1235.09<br>459.12                          | 281.26<br>115.39<br>302.89<br>1976.02<br>670.69<br>180.29<br>512.03<br>1752.46<br>1139.46<br>165.87<br>1240.42<br>591.36                          | 198.21<br>72.68<br>218.03<br>1625.30<br>436.06<br>184.99<br>317.13<br>1770.65<br>984.43<br>151.96<br>898.54<br>429.45                          |             |
| Analyst (Initials) ye ye ye ye ye ye ye ye ye ye ye ye ye                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | I   | 2-C23 2-C24 2-C25 2-C26 2-C27 2-C28 2-C29 2-C30 2-C31 6,10,14-trimethylpentadecano-2-one                     | 164.56<br>934.70<br>190.89<br>164.56<br>197.47<br>1119.01<br>895.21<br>368.62<br>638.49<br>190.89                                | 0.00<br>121.26<br>1133.79<br>187.95<br>181.89<br>321.34<br>1376.31<br>666.93<br>321.34<br>794.26<br>309.21                        | 14.20<br>177.49<br>706.39<br>191.68<br>220.08<br>181.04<br>894.53<br>653.15<br>124.24<br>511.16<br>273.33                      | 135.80<br>303.92<br>1797.68<br>465.59<br>129.33<br>433.25<br>1480.82<br>1364.42<br>103.46<br>1235.09<br>459.12                          | 281.26<br>115.39<br>302.89<br>1976.02<br>670.69<br>180.29<br>512.03<br>1752.46<br>1139.46<br>165.87<br>1240.42<br>591.36                          | 198.21<br>72.68<br>218.03<br>1625.30<br>436.06<br>184.99<br>317.13<br>1770.65<br>984.43<br>151.96<br>898.54<br>429.45                          |             |
| Date(s) of measurements (m/d/y) 4/10/02 4/10/02 4/10/02 4/10/02 4/10/02 4/10/02 4/10/02 4/10/02 4/10/02 4/10/02 A/10/02  1   | 2-C23 2-C24 2-C25 2-C26 2-C27 2-C28 2-C29 2-C30 2-C31 6,10,14-trimethylpentadecano-2-one                     | 164.56<br>934.70<br>190.89<br>164.56<br>197.47<br>1119.01<br>895.21<br>368.62<br>638.49<br>190.89<br>Air Particulate             | 0.00<br>121.26<br>1133.79<br>187.95<br>181.89<br>321.34<br>1376.31<br>666.93<br>321.34<br>794.26<br>309.21                        | 14.20<br>177.49<br>706.39<br>191.68<br>220.08<br>181.04<br>894.53<br>653.15<br>124.24<br>511.16<br>273.33                      | 135.80<br>303.92<br>1797.68<br>465.59<br>129.33<br>433.25<br>1480.82<br>1364.42<br>103.46<br>1235.09<br>459.12<br>SRM 1649a             | 281.26<br>115.39<br>302.89<br>1976.02<br>670.69<br>180.29<br>512.03<br>1752.46<br>1139.46<br>165.87<br>1240.42<br>591.36                          | 198.21<br>72.68<br>218.03<br>1625.30<br>436.06<br>184.99<br>317.13<br>1770.65<br>984.43<br>151.96<br>898.54<br>429.45<br>SRM 1649a             |             |
| Sample Jar number #331 #331 #331 #331  Air Particulate I Air Particulate I Air Particulate I SRM 1649a SRM 1649a SRM 1649a Sample I Sample I Sample 2 Sample 3 Sample I Sample 2 Sample 3 Sample I Sample 2 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample 3 Sample |     | 2-C23 2-C24 2-C25 2-C26 2-C27 2-C28 2-C29 2-C30 2-C31 6,10,14-trimethylpentadecano-2-one Alkanes and Alkenes | 164.56<br>934.70<br>190.89<br>164.56<br>197.47<br>1119.01<br>895.21<br>368.62<br>638.49<br>190.89<br>Air Particulate             | 0.00<br>121.26<br>1133.79<br>187.95<br>181.89<br>321.34<br>1376.31<br>666.93<br>321.34<br>794.26<br>309.21                        | 14.20<br>177.49<br>706.39<br>191.68<br>220.08<br>181.04<br>894.53<br>653.15<br>124.24<br>511.16<br>273.33<br>Air Particulate I | 135.80<br>303.92<br>1797.68<br>465.59<br>129.33<br>433.25<br>1480.82<br>1364.42<br>103.46<br>1235.09<br>459.12<br>SRM 1649a<br>Sample I | 281.26<br>115.39<br>302.89<br>1976.02<br>670.69<br>180.29<br>512.03<br>1752.46<br>1139.46<br>165.87<br>1240.42<br>591.36<br>SRM 1649a<br>Sample 2 | 198.21<br>72.68<br>218.03<br>1625.30<br>436.06<br>184.99<br>317.13<br>1770.65<br>984.43<br>151.96<br>898.54<br>429.45<br>SRM 1649a<br>Sample 3 |             |
| Air Particulate I Air Particulate I SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SRM 1649a SAM 1649a SAM 1649a SAM 1649a SAM 1649a SRM 1649a SAM 1649a  |     | 2-C23 2-C24 2-C25 2-C26 2-C27 2-C28 2-C29 2-C30 2-C31 6,10,14-trimethylpentadecano-2-one Alkanes and Alkenes | 164.56<br>934.70<br>190.89<br>164.56<br>197.47<br>1119.01<br>895.21<br>368.62<br>638.49<br>190.89<br>Air Particulate<br>Sample I | 0.00<br>121.26<br>1133.79<br>187.95<br>181.89<br>321.34<br>1376.31<br>666.93<br>321.34<br>794.26<br>309.21<br>I Air Particulate I | 14.20<br>177.49<br>706.39<br>191.68<br>220.08<br>181.04<br>894.53<br>653.15<br>124.24<br>511.16<br>273.33<br>Air Particulate I | 135.80<br>303.92<br>1797.68<br>455.59<br>129.33<br>433.25<br>1480.82<br>1364.42<br>103.46<br>1235.09<br>459.12<br>SRM 1649a<br>Sample 1 | 281.26<br>115.39<br>302.89<br>1976.02<br>670.69<br>180.29<br>512.03<br>1752.46<br>1139.46<br>165.87<br>1240.42<br>591.36<br>SRM 1649a<br>Sample 2 | 198.21<br>72.68<br>218.03<br>1625.30<br>436.06<br>184.99<br>317.13<br>1770.65<br>984.43<br>151.96<br>898.54<br>429.45<br>SRM 1649a<br>Sample 3 |             |
| Sample 1         Sample 2         Sample 3         Sample 3         Sample 3         Sample 3         Sample 3         Sample 3         Sample 2         Sample 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |                                                                                                              |                                                                                                                                  |                                                                                                                                   |                                                                                                                                |                                                                                                                                         |                                                                                                                                                   |                                                                                                                                                |             |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | n-C34 2064.37<br>n-C35 1200.22<br>n-C37 1360.24                                                               | 3012.27<br>2259.20<br>1506.14 | 2047.38<br>1740.27<br>1286.93 | 2664.31<br>3172.33<br>1851.47 | 2299.05<br>2420.64<br>1790.61 | 3325.32<br>2754.30<br>2093.72 |               |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|---------------|--|
| Carbonyls and Acids                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Air Particulate 1                                                                                             | Air Particulate 1             | Air Particulate I             | SRM 1649a                     | SRM 1649a                     | SRM 1649a                     |               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sample 1                                                                                                      | Sample 2                      | Sample 3                      | Sample 1                      | Sample 2                      | Sample 3                      |               |  |
| Analyst (Initials)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | yc                                                                                                            | yc                            | yc                            | yc                            | ýc                            | yc                            |               |  |
| Date(s) of measurements (m/d/s<br>Sample Jar number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | /) 12/11/02<br>#331                                                                                           | 12/11/02<br>#331              | 12/11/02<br>#331              | 12/11/02                      | 12/11/02                      | 12/11/02                      |               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Air Particulate I                                                                                             | Air Particulate I             | Air Particulate I             | SRM 1649a                     | SRM 1649a                     | SRM 1649a                     |               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sample 1                                                                                                      | Sample 2                      | Sample 3                      | Sample 1                      | Sample 2                      | Sample 3                      |               |  |
| lac ::                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | (ng/g as received                                                                                             |                               |                               |                               |                               |                               |               |  |
| C6 acid<br>C7 acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 10701.29<br>2813.34                                                                                           | 10233.53<br>2856.73           | 9025.97<br>2983.16            | 13299.50<br>6817.81           | 13144.96                      | 11536.32<br>5277.32           |               |  |
| C8 acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 4967.52                                                                                                       | 4762.71                       | 3732.53                       | 7143.33                       | 6850.29<br>7085.47            | 5836.61                       |               |  |
| C9 acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 6973.94                                                                                                       | 5675.95                       | 4504.07                       | 8664.82                       | 7685.73                       | 6260.91                       |               |  |
| C10 acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 4149.84                                                                                                       | 2488.50                       | 3577.11                       | 6624.80                       | 5643.77                       | 4908.16                       |               |  |
| C11 acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2747.05                                                                                                       | 2200.22                       | 2155.97                       | 5334.30                       | 4419.60                       | 3619.10                       |               |  |
| C12 acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 5331.65                                                                                                       | 3707.43                       | 4159.70                       | 7696.13                       | 8607.74                       | 6689.97                       |               |  |
| C13 acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8440.41                                                                                                       | 8417.77                       | 7402.57                       | 12452.57                      | 14631.87                      | 12174.73                      |               |  |
| C14 acid<br>C15 acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 11669.12<br>5970.61                                                                                           | 12458.12<br>4324.81           | 8733.73<br>3818.97            | 13004.50<br>9878.04           | 17728.13                      | 12294.78                      |               |  |
| C17 acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 17544.89                                                                                                      | 15310.80                      | 12177.78                      | 17769.56                      | 11010.35<br>21837.53          | 8108.78<br>17968.83           |               |  |
| C18 acid (stearic acid)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 97938.03                                                                                                      | 93733.08                      | 69658.70                      | 79640.05                      | 150639.63                     | 93598.33                      |               |  |
| C18:1 acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 23852.99                                                                                                      | 21946.24                      | 19855.11                      | 19067.91                      | 28113.35                      | 24709.62                      |               |  |
| C20 acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 24480.80                                                                                                      | 22148.92                      | 18239.11                      | 20828.14                      | 32348.21                      | 22917.00                      |               |  |
| cis-Pinonic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 4604.74                                                                                                       | 4031.81                       | 3490.67                       | 5794.31                       | 6088.57                       | 5069.54                       |               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1 For Alkanes, Ca                                                                                             |                               |                               | mit of quantitation           | n (LOQ) <5000r                | g/g                           |               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2 Prystane and Phyta                                                                                          |                               | 000ng/g)                      |                               |                               |                               |               |  |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 3 Hopanes and sterar                                                                                          |                               |                               |                               |                               |                               |               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 4 All samples were o                                                                                          |                               |                               |                               |                               |                               |               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <ol> <li>Slight precipitate o</li> <li>Alkylcyclohexane.</li> </ol>                                           |                               | o nexane                      |                               |                               |                               |               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Calibration Curve                                                                                             |                               | Conc. Range                   |                               |                               |                               |               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Cumbianion Carre                                                                                              |                               | 0.5, 1.0                      |                               |                               |                               |               |  |
| DL indicates below level of detection The reported value for Chrysene inclu The following compounds were detec Tetracosane, Pentacosane, Hexacosa Tricosanoic Acid, Tetracosanoic Acid, Aliphatic and Aromatic Diacids were                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ted in the blanks at less than<br>ine, Heptacosane, Fluoranthe<br>id, Hexacosanoic Acid                       | ne, Pyrene, Hexade            | anoic acid, Heptade           | canoic acid, Oleic A          |                               | cid, Eicosanoic Acid, Docc    | sanoic Acid,  |  |
| The reported value for Chrysene inclu The following compounds were detec Tetracosane, Pentucosane, Hexacosa Tricosanoic Acid, Tetracosanoic Ac Aliphatic and Aromatic Discids were Additional Compounds quantified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ted in the blanks at less than<br>ine, Heptacosane, Fluoranthe<br>id, Hexacosanoic Acid                       | ne, Pyrene, Hexade            | anoic acid, Heptade           | canoic acid, Oleic A          |                               | rid, Eicosanoic Acid, Docc    | ssanoic Acid, |  |
| The reported value for Chrysene inclu The following compounds were detec Tetracosane, Pentacosane, Hexacos Tricosanoic Acid, Tetracosanoic Ac Aliphatic and Aromatic Discids were Additional Compounds quantified TETRADECANOIC ACID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ted in the blanks at less than<br>ine, Heptacosane, Fluoranthe<br>id, Hexacosanoic Acid                       | ne, Pyrene, Hexade            | anoic acid, Heptade           | canoic acid, Oleic A          |                               | rid, Eicosanoic Acid, Docc    | osanoic Acid, |  |
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| The reported value for Chrysene inclu The following compounds were detec Tetracosane, Pentacosane, Hexacosa Tricosanoic Acid, Tetracosanoic Ac Aliphatic and Aromatic Diacids were Additional Compounds quantified TETRADECANOIC ACID PENTADECANOIC ACID PALMITOLEIC ACID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ted in the blanks at less than<br>ine, Heptacosane, Fluoranthe<br>id, Hexacosanoic Acid                       | ne, Pyrene, Hexade            | anoic acid, Heptade           | canoic acid, Oleic A          |                               | cid, Eicosanouc Acid, Docc    | ssanoic Acid, |  |
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|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Interim RM                                                                                                                                                                        | Interim RM                                                                                                                                                                                           | Intenm RM                                                                                                                                                                            | SRM 1649a                                                                                                                                                                                                           | SR.M 1649a                                                                                                                                                                                                                   | SRM 1649a                                                                                                                                                                                             |           |                                       |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sample 1                                                                                                                                                                          | Sample 2                                                                                                                                                                                             | Sample 3                                                                                                                                                                             | Sample 1                                                                                                                                                                                                            | Sample 2                                                                                                                                                                                                                     | Sample 3                                                                                                                                                                                              |           |                                       |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                   |                                                                                                                                                                                                      | (ng/g as received)                                                                                                                                                                   |                                                                                                                                                                                                                     |                                                                                                                                                                                                                              |                                                                                                                                                                                                       |           |                                       |
|     | 2-methylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 732                                                                                                                                                                               | 728                                                                                                                                                                                                  | 773                                                                                                                                                                                  | 997                                                                                                                                                                                                                 | 1012                                                                                                                                                                                                                         | 1028                                                                                                                                                                                                  |           |                                       |
|     | 1-methylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 377                                                                                                                                                                               | 378                                                                                                                                                                                                  | 405                                                                                                                                                                                  | 542                                                                                                                                                                                                                 | 544                                                                                                                                                                                                                          | 536                                                                                                                                                                                                   |           |                                       |
| 1   | acenaphthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 104                                                                                                                                                                               | 149                                                                                                                                                                                                  | 144                                                                                                                                                                                  | 229                                                                                                                                                                                                                 | 217                                                                                                                                                                                                                          | 202                                                                                                                                                                                                   |           |                                       |
|     | acenaphthylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 160                                                                                                                                                                               | 138                                                                                                                                                                                                  | 123                                                                                                                                                                                  | 177                                                                                                                                                                                                                 | 151                                                                                                                                                                                                                          | 173                                                                                                                                                                                                   |           |                                       |
| 1   | 2,3,5-trimethylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 115                                                                                                                                                                               | 108                                                                                                                                                                                                  | 136                                                                                                                                                                                  | 160                                                                                                                                                                                                                 | 137                                                                                                                                                                                                                          | 173                                                                                                                                                                                                   |           |                                       |
| 1   | 9+4-methylphenanthrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 273                                                                                                                                                                               | 259                                                                                                                                                                                                  | 272                                                                                                                                                                                  | 502                                                                                                                                                                                                                 | 521                                                                                                                                                                                                                          | 521                                                                                                                                                                                                   |           |                                       |
| - 1 | benzo[c]phenanthrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 324                                                                                                                                                                               | 350                                                                                                                                                                                                  | 361                                                                                                                                                                                  | 433                                                                                                                                                                                                                 | 436                                                                                                                                                                                                                          | 414                                                                                                                                                                                                   |           |                                       |
|     | chrysene/triphenylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 4971                                                                                                                                                                              | 5144                                                                                                                                                                                                 | 4999                                                                                                                                                                                 | 3896                                                                                                                                                                                                                | 3905                                                                                                                                                                                                                         | 3991                                                                                                                                                                                                  |           |                                       |
| - 1 | benzo[a]fluoranthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 300                                                                                                                                                                               | 260                                                                                                                                                                                                  | 281                                                                                                                                                                                  | 408                                                                                                                                                                                                                 | 376                                                                                                                                                                                                                          | 373                                                                                                                                                                                                   |           |                                       |
|     | picene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 479                                                                                                                                                                               | 495                                                                                                                                                                                                  | 464                                                                                                                                                                                  | 428                                                                                                                                                                                                                 | 439                                                                                                                                                                                                                          | 463                                                                                                                                                                                                   |           |                                       |
| - 1 | pentaphene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 157                                                                                                                                                                               | 134                                                                                                                                                                                                  | 133                                                                                                                                                                                  | 142                                                                                                                                                                                                                 | 146                                                                                                                                                                                                                          | 138                                                                                                                                                                                                   |           |                                       |
|     | 1-nitronapthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 8.21                                                                                                                                                                              | 8.34                                                                                                                                                                                                 | 8.14                                                                                                                                                                                 | 6.83                                                                                                                                                                                                                | 6.51                                                                                                                                                                                                                         | 6.44                                                                                                                                                                                                  |           |                                       |
|     | 2-nitronaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 7.02                                                                                                                                                                              | 7.22                                                                                                                                                                                                 | 7.18                                                                                                                                                                                 | 9.51                                                                                                                                                                                                                | 10.4                                                                                                                                                                                                                         | 10.1                                                                                                                                                                                                  |           |                                       |
| - 1 | 3-ntirobiphenyl                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2.84                                                                                                                                                                              | 2.51                                                                                                                                                                                                 | 2.34                                                                                                                                                                                 | 3.65                                                                                                                                                                                                                | 3.84                                                                                                                                                                                                                         | 3.47                                                                                                                                                                                                  |           |                                       |
|     | 5-nitroacenaphthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.81                                                                                                                                                                              | 1.99                                                                                                                                                                                                 | 1.64                                                                                                                                                                                 | 3.05                                                                                                                                                                                                                | 3.24                                                                                                                                                                                                                         | 3.18                                                                                                                                                                                                  |           |                                       |
|     | 9-nitrophenanthrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 9.41                                                                                                                                                                              | 8.84                                                                                                                                                                                                 | 8.51                                                                                                                                                                                 | 1.76                                                                                                                                                                                                                | 1.77                                                                                                                                                                                                                         | 1.67                                                                                                                                                                                                  |           |                                       |
|     | 4-nitrophenanthrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.597                                                                                                                                                                             | 0.584                                                                                                                                                                                                | 0.592                                                                                                                                                                                | 0.476 -                                                                                                                                                                                                             | 0.477                                                                                                                                                                                                                        | 0.481                                                                                                                                                                                                 |           |                                       |
| - 1 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 16.5                                                                                                                                                                              | 16.1                                                                                                                                                                                                 | 16.3                                                                                                                                                                                 | 21.5                                                                                                                                                                                                                | 22.1                                                                                                                                                                                                                         |                                                                                                                                                                                                       |           |                                       |
|     | 3-nitrophenanthrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                   |                                                                                                                                                                                                      |                                                                                                                                                                                      |                                                                                                                                                                                                                     |                                                                                                                                                                                                                              | 22.7                                                                                                                                                                                                  |           |                                       |
|     | 4-nitropyrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 7.94                                                                                                                                                                              | 8.87                                                                                                                                                                                                 | 8.97                                                                                                                                                                                 | 5.54                                                                                                                                                                                                                | 5.64                                                                                                                                                                                                                         | 5.47                                                                                                                                                                                                  |           |                                       |
|     | 8-nitrofluoranthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 6.01                                                                                                                                                                              | 5.45                                                                                                                                                                                                 | 5.64                                                                                                                                                                                 | 8.56                                                                                                                                                                                                                | 8.99                                                                                                                                                                                                                         | 8.47                                                                                                                                                                                                  |           |                                       |
|     | 2-nitropyrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 36.8                                                                                                                                                                              | 34.8                                                                                                                                                                                                 | 39.1                                                                                                                                                                                 | 26.4                                                                                                                                                                                                                | 28.9                                                                                                                                                                                                                         | 24.7                                                                                                                                                                                                  |           |                                       |
|     | n-C17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2324                                                                                                                                                                              | 2513                                                                                                                                                                                                 | 2572                                                                                                                                                                                 | 3063                                                                                                                                                                                                                | 3077                                                                                                                                                                                                                         | 3215                                                                                                                                                                                                  |           |                                       |
|     | n-C18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2685                                                                                                                                                                              | 2634                                                                                                                                                                                                 | 2731                                                                                                                                                                                 | 2309                                                                                                                                                                                                                | 1972                                                                                                                                                                                                                         | 2346                                                                                                                                                                                                  |           |                                       |
|     | n-C19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2445                                                                                                                                                                              | 3197                                                                                                                                                                                                 | 2654                                                                                                                                                                                 | 3888                                                                                                                                                                                                                | 3912                                                                                                                                                                                                                         | 3997                                                                                                                                                                                                  |           |                                       |
|     | n-C33                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 10649                                                                                                                                                                             | 10101                                                                                                                                                                                                | 10544                                                                                                                                                                                | 22017                                                                                                                                                                                                               | 22543                                                                                                                                                                                                                        | 23520                                                                                                                                                                                                 |           |                                       |
|     | n-C34                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5266                                                                                                                                                                              | 4519                                                                                                                                                                                                 | 5199                                                                                                                                                                                 | 13632                                                                                                                                                                                                               | 12189                                                                                                                                                                                                                        | 12222                                                                                                                                                                                                 |           |                                       |
| -   | n-C35                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1438                                                                                                                                                                              | 1478                                                                                                                                                                                                 | 1501                                                                                                                                                                                 | <2000                                                                                                                                                                                                               | <2000                                                                                                                                                                                                                        | <2000                                                                                                                                                                                                 |           |                                       |
|     | dibeno(a,h)anthracene had a coeluting compound on the gas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                   |                                                                                                                                                                                                      |                                                                                                                                                                                      |                                                                                                                                                                                                                     |                                                                                                                                                                                                                              |                                                                                                                                                                                                       |           |                                       |
|     | 9-methylphenanthrene and 4-methylphenanthrene were coelu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                   |                                                                                                                                                                                                      |                                                                                                                                                                                      |                                                                                                                                                                                                                     | 00                                                                                                                                                                                                                           | -                                                                                                                                                                                                     |           |                                       |
| ·   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Interim RM                                                                                                                                                                        | Interim RM                                                                                                                                                                                           | Interim RM                                                                                                                                                                           | SRM 1649a                                                                                                                                                                                                           | SRM 1649a                                                                                                                                                                                                                    | SRM 1649a                                                                                                                                                                                             |           |                                       |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sample 1                                                                                                                                                                          | Sample 2                                                                                                                                                                                             | Sample 3                                                                                                                                                                             | Sample 1                                                                                                                                                                                                            | Sample 2                                                                                                                                                                                                                     | Sample 3                                                                                                                                                                                              |           |                                       |
|     | Acenaphthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | (ng/g as received)                                                                                                                                                                | (ng/g as received)                                                                                                                                                                                   | (ng/g as received) <dl< td=""><td>(ng/g as received)</td><td>(fig/g as received)</td><td></td><td></td><td></td></dl<>                                                               | (ng/g as received)                                                                                                                                                                                                  | (fig/g as received)                                                                                                                                                                                                          |                                                                                                                                                                                                       |           |                                       |
| a   | Acemaphinene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Interim RM                                                                                                                                                                        | Interim RM                                                                                                                                                                                           | Interim RM                                                                                                                                                                           | SRM 1649a                                                                                                                                                                                                           | SR.M 1649a                                                                                                                                                                                                                   | 123<br>SRM 1649a                                                                                                                                                                                      |           |                                       |
| •   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                   |                                                                                                                                                                                                      | Sample 3                                                                                                                                                                             | Sample I                                                                                                                                                                                                            | Sample 2                                                                                                                                                                                                                     | Sample 3                                                                                                                                                                                              |           |                                       |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sample 1                                                                                                                                                                          | Sample 2                                                                                                                                                                                             |                                                                                                                                                                                      |                                                                                                                                                                                                                     | -                                                                                                                                                                                                                            |                                                                                                                                                                                                       |           |                                       |
| - 1 | Acenaphthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | (ng/g as received)                                                                                                                                                                | (ng/g as received)                                                                                                                                                                                   | (ng/g as received)<br>276                                                                                                                                                            | 352                                                                                                                                                                                                                 | 369                                                                                                                                                                                                                          | (ng. g as received)<br>425                                                                                                                                                                            |           |                                       |
|     | 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Interim RM                                                                                                                                                                        | Interim RM                                                                                                                                                                                           | Interim RM                                                                                                                                                                           | SRM 1649a                                                                                                                                                                                                           | SRM 1649a                                                                                                                                                                                                                    | SRM 1649a                                                                                                                                                                                             | CCNS.     | analysis mouth (ag/ul )               |
|     | Compound                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Sample 1                                                                                                                                                                          | Sample 2                                                                                                                                                                                             | Sample 3<br>(ng/g as received)                                                                                                                                                       | Sample 1                                                                                                                                                                                                            | Sample 2                                                                                                                                                                                                                     | Sample 3<br>(ng/g as received)                                                                                                                                                                        | IRM blank | analysis results (ng/uL)<br>SRM blank |
| ļ   | Diethyl Prithalate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 788                                                                                                                                                                               | 618                                                                                                                                                                                                  | 16622                                                                                                                                                                                | 496                                                                                                                                                                                                                 | 621                                                                                                                                                                                                                          | 499                                                                                                                                                                                                   | 0.06      | 0.12                                  |
|     | Naphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 3029                                                                                                                                                                              | 1773                                                                                                                                                                                                 | 2612                                                                                                                                                                                 | 1696                                                                                                                                                                                                                | 2110                                                                                                                                                                                                                         | 1956                                                                                                                                                                                                  | 0.2       |                                       |
|     | 2-Methylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 996                                                                                                                                                                               | 907                                                                                                                                                                                                  | 1161                                                                                                                                                                                 | 703                                                                                                                                                                                                                 | 827                                                                                                                                                                                                                          | 583                                                                                                                                                                                                   |           |                                       |
|     | 1-Methylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 788                                                                                                                                                                               | 412                                                                                                                                                                                                  | 622                                                                                                                                                                                  | 455                                                                                                                                                                                                                 | 455                                                                                                                                                                                                                          | 416                                                                                                                                                                                                   |           |                                       |
| - 1 | 2,6-Dimethylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 622                                                                                                                                                                               | 371                                                                                                                                                                                                  | 497                                                                                                                                                                                  | 0                                                                                                                                                                                                                   | 0                                                                                                                                                                                                                            | 0                                                                                                                                                                                                     |           |                                       |
|     | Acenaphthylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 871                                                                                                                                                                               | 536                                                                                                                                                                                                  | 953                                                                                                                                                                                  | 0                                                                                                                                                                                                                   |                                                                                                                                                                                                                              | •                                                                                                                                                                                                     |           |                                       |
|     | Fluorene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                   |                                                                                                                                                                                                      |                                                                                                                                                                                      | 277                                                                                                                                                                                                                 | 910                                                                                                                                                                                                                          | 874                                                                                                                                                                                                   |           |                                       |
| 1   | 1-Methytfluorene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 166                                                                                                                                                                               | 93                                                                                                                                                                                                   | 124                                                                                                                                                                                  | 827                                                                                                                                                                                                                 | 910                                                                                                                                                                                                                          | 874                                                                                                                                                                                                   |           |                                       |
| 1   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 166                                                                                                                                                                               | 82                                                                                                                                                                                                   | 124                                                                                                                                                                                  | 165                                                                                                                                                                                                                 | 290                                                                                                                                                                                                                          | 291                                                                                                                                                                                                   |           |                                       |
|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 207                                                                                                                                                                               | 371                                                                                                                                                                                                  | 373                                                                                                                                                                                  | 165<br>0                                                                                                                                                                                                            | 290<br>0                                                                                                                                                                                                                     | 291<br>0                                                                                                                                                                                              |           |                                       |
| - 1 | Phenanthrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 207<br>3195                                                                                                                                                                       | 371<br>1897                                                                                                                                                                                          | 373<br>3358                                                                                                                                                                          | 165<br>0<br>3724                                                                                                                                                                                                    | 290<br>0<br>4882                                                                                                                                                                                                             | 291<br>0<br>4620                                                                                                                                                                                      |           |                                       |
|     | Phenanthrene<br>Anthracene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 207                                                                                                                                                                               | 371                                                                                                                                                                                                  | 373                                                                                                                                                                                  | 165<br>0                                                                                                                                                                                                            | 290<br>0                                                                                                                                                                                                                     | 291<br>0                                                                                                                                                                                              | 0.47      | 21                                    |
|     | Phenanthrene<br>Anthracene<br>Dibutylphthalate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 207<br>3195<br>996                                                                                                                                                                | 371<br>1897<br>577                                                                                                                                                                                   | 373<br>3358<br>871                                                                                                                                                                   | 165<br>0<br>3724<br>1241                                                                                                                                                                                            | 290<br>0<br>4882<br>1324                                                                                                                                                                                                     | 291<br>0<br>4620<br>1373                                                                                                                                                                              | 0.47      | 2.1<br>0.68                           |
|     | Phenanthrene Anthracene Dibuty/phthalate Buty/benzy/phthalate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 207<br>3195<br>996                                                                                                                                                                | 371<br>1897<br>577                                                                                                                                                                                   | 373<br>3358<br>871<br>7627                                                                                                                                                           | 165<br>0<br>3724<br>1241                                                                                                                                                                                            | 290<br>0<br>4882<br>1324                                                                                                                                                                                                     | 291<br>0<br>4620<br>1373                                                                                                                                                                              | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibuty/iphthalate Buy/ibenzy/phthalate Bis-2-Ethylinexy/pthalate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 207<br>3195<br>996<br>9253<br>40331                                                                                                                                               | 371<br>1897<br>577<br>10390<br>31788                                                                                                                                                                 | 373<br>3358<br>871<br>7627<br>31587                                                                                                                                                  | 165<br>0<br>3724<br>1241<br>5958<br>92303                                                                                                                                                                           | 290<br>0<br>4882<br>1324<br>5544<br>70957                                                                                                                                                                                    | 291<br>0<br>4620<br>1373<br>5203<br>60975                                                                                                                                                             |           |                                       |
|     | Phenanthrene Anthracene Dibuty/iphthalate Bis-2-Emylhexy/iphthalate Diocty/iphthalate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 207<br>3195<br>996<br>9253<br>40331<br>4398                                                                                                                                       | 371<br>1897<br>577<br>10390<br>31788<br>2680                                                                                                                                                         | 373<br>3358<br>871<br>7627<br>31587<br>5264                                                                                                                                          | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0                                                                                                                                                                      | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0                                                                                                                                                                               | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0                                                                                                                                                        | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibutyiphthalate Butyibenzyiphthalate Bis-2-Ethylhexyiphthalate Dioctyiphthalate Fluoranthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436                                                                                                                               | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370                                                                                                                                                 | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4726                                                                                                                                  | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454                                                                                                                                                              | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330                                                                                                                                                                       | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827                                                                                                                                                | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibuty/phthalate Buty/leenzy/phthalate Bis-2-Ethylhexy/phthalate Diocty/phthalate Fluorantiene Pyrane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734                                                                                                                       | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216                                                                                                                                         | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4726<br>3275                                                                                                                          | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958                                                                                                                                                      | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792                                                                                                                                                               | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369                                                                                                                                        | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibutyliphthalate Buylibenzyliphthalate Bis-2-Ethylihexylipthalate Dioctyliphthalate Fluoranthene Pyrene Chrysene & Triphenylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141                                                                                                               | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906                                                                                                                                 | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4726<br>3275<br>4767                                                                                                                  | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882                                                                                                                                              | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213                                                                                                                                                       | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995                                                                                                                                | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibutyliphthalate Bis-2-Emylhexyliphthalate Dioctyliphthalate Dioctyliphthalate Fluoranthene Pyrane Chrysene & Triphenylene Benzo(a) anthracene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867                                                                                                       | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154                                                                                                                         | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4726<br>3275<br>4767<br>1368                                                                                                          | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945                                                                                                                                      | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193                                                                                                                                               | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372                                                                                                                        | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibut/johthalate Bis-2-Emylhex/johthalate Diocty/phthalate Diocty/phthalate Diocty/phthalate Puranthene Pyrene Chrysene & Triphenylene Benzo(a) janthracene Benzo(k) fluoranthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025                                                                                               | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639                                                                                                                 | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4726<br>3275<br>4767<br>1368<br>3233                                                                                                  | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689                                                                                                                              | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193<br>2772                                                                                                                                       | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080                                                                                                                | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibut/iphthalate But/floenzy/iphthalate Bis-2-Ethylhexy/ipthalate Dioct/iphthalate Fluoranthene Pyrene Chrysene & Tripheny/ene Benzo(a janthracene Benzo(b) fluoranthene Benzo(b) fluoranthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187                                                                                       | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474                                                                                                         | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4726<br>3275<br>4767<br>1368<br>3233<br>3855                                                                                          | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330                                                                                                                      | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193<br>2772<br>5751                                                                                                                               | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159                                                                                                        | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibutylphthalate Buytbenzylphthalate Bis-2-Ethylhexylpthalate Dioctylphthalate Fluoranthene Pyrene Chrysene & Triphenylene Benzo(a janthracene Benzo(b illuoranthene Benzo(b illuoranthene Benzo(a jpyrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187<br>1660                                                                               | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866                                                                                                  | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4726<br>3275<br>4767<br>1368<br>3233<br>3855<br>1202                                                                                  | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330<br>2524                                                                                                              | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193<br>2772<br>5751<br>1945                                                                                                                       | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790                                                                                                | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibutylphthalate Bis-2-Ethylhexylphthalate Bis-2-Ethylhexylphthalate Dioctylphthalate Pluoranthrene Pyrane Chrysene & Triphenylene Benzo(s janthracene Benzo(s jihuoranthrene Benzo(s) jihuoranthrene Benzo(s) jihuoranthrene Benzo(s) jiyrane Indeno(1,2,3-od)pyrane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187<br>1660<br>5021                                                                       | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205                                                                                          | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4726<br>3275<br>4767<br>1368<br>3223<br>3855<br>1202<br>3979                                                                          | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330<br>2524<br>2937                                                                                                      | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193<br>2772<br>5751<br>1945<br>5048                                                                                                               | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162                                                                                        | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibutyiphthalate Bis-2-Emylhexyiphthalate Bis-2-Emylhexyiphthalate Dioctyiphthalate Dioctyiphthalate Fluoranthene Pyrane Chrysene & Triphenyiene Benzo(a) janthracene Benzo(a) jituoranthene Benzo(a) jituoranthene Benzo(a) jiyrene Indeno(1,2,3-od)pyrene Dibenzo(a,h)anthracene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187<br>1660<br>5021<br>830                                                                | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>536                                                                                   | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4726<br>3275<br>4767<br>1368<br>3223<br>3855<br>1202<br>3979<br>580                                                                   | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330<br>2524<br>2937<br>0                                                                                                 | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193<br>2772<br>5751<br>1945<br>5048<br>0                                                                                                          | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162<br>0                                                                                   | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibut/iphthalate Bis-2-Emylhexylphthalate Bis-2-Emylhexylphthalate Dioctylphthalate Dioctylphthalate Fluoranthene Pyrene Chrysene & Triphenylene Benzo(a) janthracene Benzo(b) jfluoranthene Benzo(b) jfluoranthene Benzo(b) jfluoranthene Benzo(a) jpyrene Dibenzo(a, n)anthracene Benzo(gh)perylene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187<br>1660<br>5021<br>830<br>6722                                                        | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>5336<br>6308                                                                          | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4726<br>3275<br>4767<br>1368<br>3233<br>3855<br>1202<br>3979<br>580<br>4891                                                           | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330<br>2524<br>2937<br>0<br>6992                                                                                         | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193<br>2772<br>5751<br>1945<br>5048<br>0<br>8358                                                                                                  | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162<br>0<br>5161                                                                           | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibutylphthalate Buytbenzylphthalate Bis-2-Ethylhexylpthalate Dioctylphthalate Fluoranthene Pyrene Chrysene & Triphenylene Benzo(a janthracene Benzo(b jituoranthene Benzo(a jpyrene Indeno(1,2,3-odjpyrene Dibenzo(a,hjanthracene Benzo(a,hjanthracene Benzo(a,hjanthracene Benzo(a,hjanthracene Benzo(a,hjanthracene Benzo(a,hjanthracene Benzo(a,hjenthracene Benzo(a,hjenthracene Benzo(a,hjenthracene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187<br>1660<br>5021<br>830<br>6722<br>2075                                                | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>536<br>6308<br>825                                                                    | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4726<br>3275<br>4767<br>1368<br>3233<br>3855<br>1202<br>3979<br>580<br>4891<br>2031                                                   | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330<br>2524<br>2937<br>0<br>6992                                                                                         | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193<br>2772<br>5751<br>1945<br>5048<br>0<br>8358<br>11543                                                                                         | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162<br>0<br>5161<br>10031                                                                  | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibuty/phthalate Bis-2-Ethylhexy/phthalate Bis-2-Ethylhexy/phthalate Diocty/phthalate Diocty/phthalate Pluoranthrene Pyrane Chrysene & Tripheny/ene Benzo(a) janthracene Benzo(a) //fluoranthrene Cholestane 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187<br>1660<br>5021<br>830<br>6722<br>2075<br>332                                         | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>536<br>6308<br>825<br>371                                                             | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4726<br>3275<br>4767<br>1368<br>3233<br>3855<br>1202<br>3979<br>580<br>4891<br>2031<br>207                                            | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330<br>2524<br>2937<br>0<br>6992<br>9723                                                                                 | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193<br>2772<br>5751<br>1945<br>5048<br>0<br>8358<br>11543<br>1862                                                                                 | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162<br>0<br>5161<br>10031<br>1915                                                          | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibutylphthalate Bis-2-Emylhexylphthalate Bis-2-Emylhexylphthalate Dioctylphthalate Piocranthene Pivrane Chrysene & Triphenylene Benzo(a) Janthracene Benzo(a) Jituoranthene Benzo(a) Difuoranthene Benzo(a) Dyrene Indeno(1,2.3-od) Dyrene Dibenzo(a,h)anthracene Benzo(a)hiperylene Coronene Cholestane 1 Cholestane 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187<br>1660<br>5021<br>830<br>6722<br>2075<br>332<br>373                                  | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>5336<br>6308<br>825<br>371<br>371                                                     | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4726<br>3275<br>4767<br>1368<br>3233<br>3855<br>1202<br>3979<br>580<br>4891<br>2031<br>207<br>249                                     | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330<br>2524<br>2937<br>0<br>6992<br>9723<br>1614                                                                         | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193<br>2772<br>5751<br>1945<br>5048<br>0<br>8358<br>11543<br>1862<br>1738                                                                         | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162<br>0<br>5161<br>10031<br>1915<br>1873                                                  | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibutyiphthalate Bis-2-Emylhexyiphthalate Bis-2-Emylhexyiphthalate Dioctyiphthalate Dioctyiphthalate Puranthene Pyrene Chrysene & Triphenyiene Benzo(a) janthracene Benzo(b) fluoranthene Benzo(b) fluoranthene Benzo(a) pyrene Dibenzo(a,h)anthracene Benzo(gh)perylene Coronene Cholestane 1 Cholestane 2 Cholestane 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187<br>1660<br>5021<br>830<br>6722<br>2075<br>332<br>373                                  | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>536<br>6308<br>825<br>371<br>371<br>289                                               | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4776<br>3275<br>4767<br>1368<br>3233<br>3855<br>1202<br>3979<br>580<br>4891<br>2031<br>207<br>249<br>290                              | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330<br>2524<br>2937<br>0<br>6992<br>9723<br>1614<br>1407<br>1076                                                         | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2173<br>2772<br>5751<br>1945<br>5048<br>0<br>8358<br>11543<br>1862<br>1738<br>1531                                                                 | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162<br>0<br>5161<br>10031<br>1915<br>1873<br>1457                                          | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibutyliphthalate Buytibenzyliphthalate Bis-2-Ethylinexyliphthalate Dioctyliphthalate Fluoranthene Pyrene Chrysene & Triphenylene Benzo(a) janthracene Benzo(b) fluoranthene Benzo(a) jiroranthene Benzo(b) fluoranthene B | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187<br>1660<br>5021<br>830<br>6722<br>2075<br>332<br>373<br>332<br>664                    | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>536<br>6308<br>825<br>371<br>371<br>289<br>742                                        | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4726<br>3275<br>4767<br>1368<br>3233<br>3855<br>1202<br>3979<br>580<br>4891<br>2031<br>207<br>249<br>290<br>622                       | 165 0 3724 1241 5958 92103 0 6454 5958 4882 1945 2689 6330 2524 2937 0 6992 9723 1614 1407 1076 3393                                                                                                                | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193<br>2772<br>5751<br>1945<br>5048<br>0<br>8358<br>11543<br>1862<br>1738<br>1531<br>3641                                                         | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162<br>0<br>5161<br>10031<br>1915<br>1873<br>1457<br>3579                                  | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibuty/iphthalate Bis-2-Eity/hexy/iphthalate Bis-2-Eity/hexy/iphthalate Diocty/iphthalate Diocty/iphthalate Piuranthrene Pyrane Chrysene & Tripheny/ene Benzo(a) janthracene Benzo(a) jituoranthrene Benzo(a) jituoranthrene Benzo(a) jituoranthrene Benzo(a) jituoranthrene Benzo(a) jituoranthrene Benzo(a) jituoranthrene Dibenzo(a) jituoranthracene Benzo(a) jituoranthracene Benzo(a) jituoranthracene Benzo(a) jituoranthracene Coronene Cholestane 1 Cholestane 2 Cholestane 3 Cholestane 4 ABB Methy/cholestane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187<br>1660<br>5021<br>830<br>6722<br>2075<br>332<br>373<br>332<br>464<br>456             | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>536<br>6308<br>825<br>371<br>371<br>289                                               | 373 3358 871 7627 31587 5264 4726 3275 4767 1368 3233 3855 1202 3979 580 4891 2031 207 249 290 622 249                                                                               | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330<br>2524<br>2937<br>0<br>6992<br>9723<br>1614<br>1407<br>1076<br>3393<br>1117                                         | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193<br>2772<br>5751<br>1945<br>5048<br>0<br>8358<br>11543<br>1862<br>1738<br>1531<br>3641<br>1200                                                 | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2377<br>3080<br>7159<br>1790<br>4162<br>0<br>5161<br>10031<br>1915<br>1873<br>1457<br>3579<br>1457                          | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibuty(phthalate Bis-2-Emylhexy(phthalate Bis-2-Emylhexy(phthalate Diocty(phthalate Diocty(phthalate Piocranthene Piyrane Chrysene & Triphenylene Benzo(a) janthracene Benzo(a) janthracene Benzo(a) pitroranthene Benzo(a) pitroranthene Benzo(a) piyrane Indeno(1,2,3-od)pyrene Dibenzo(a,h)anthracene Benzo(a)hiperylene Coronene Cholestane 1 Cholestane 2 Cholestane 3 Cholestane 4 ABB Methylcholestane ABB Ethylcholestane ABB Ethylcholestane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187<br>1660<br>5021<br>830<br>6722<br>2075<br>332<br>373<br>332<br>4664<br>456<br>954     | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>536<br>6308<br>825<br>371<br>371<br>289<br>742                                        | 373 3358 871 7627 31587 5264 4726 3275 4767 1368 3223 3855 1202 3979 580 4891 2001 207 249 290 622 249 912                                                                           | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330<br>2524<br>2937<br>0<br>6992<br>9723<br>1614<br>1407<br>1076<br>3393<br>1117<br>2317                                 | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193<br>2772<br>5751<br>1945<br>5048<br>0<br>8358<br>11543<br>1862<br>1738<br>1531<br>3641<br>1200<br>2441                                         | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162<br>0<br>5161<br>10031<br>1915<br>1873<br>1457<br>3579<br>1457<br>2289                  | 0.24 0.26 | 0.68                                  |
|     | Phenanthrene Anthracene Dibutyliphthalate Bis-2-Emylhexylphthalate Bis-2-Emylhexylphthalate Dioctyliphthalate Dioctyliphthalate Picoranthene Pyrane Chrysene & Triphenylene Benzo(a) janthracene Benzo(a) jituoranthene Benzo(a) jituoranthene Benzo(a) jityene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene Benzo(a)pyrene Coronene Cholestane 1 Cholestane 1 Cholestane 2 Cholestane 3 Cholestane 4 ABB Methylcholestane ABB Ethylcholestane Trisnorhopane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187<br>1660<br>5021<br>830<br>6722<br>2075<br>332<br>373<br>332<br>664<br>456<br>954      | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>536<br>6308<br>825<br>371<br>371<br>289<br>742<br>289<br>742                          | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4776<br>3275<br>4767<br>1368<br>3233<br>3855<br>1202<br>3979<br>580<br>4891<br>2031<br>207<br>249<br>290<br>622<br>249<br>912<br>1078 | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330<br>2524<br>2937<br>0<br>6992<br>9723<br>1614<br>1407<br>1076<br>3393<br>1117<br>2317<br>2110                         | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2173<br>2772<br>5751<br>1945<br>5048<br>0<br>8358<br>11543<br>1862<br>1738<br>1531<br>3641<br>1200<br>2441<br>2482                                 | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162<br>0<br>5161<br>10031<br>1915<br>1873<br>1457<br>3579<br>1457<br>2289<br>2248          | 0.24      | 0.68                                  |
|     | Phenanthrene Anthracene Dibutylphthalate Buytberzylphthalate Bis-2-Ethylhexylpthalate Dioctylphthalate Fluoranthene Pyrene Chrysene & Triphenylene Benzo(a) janthracene Benzo(b) fluoranthene Benzo(b) fluoranthene Benzo(a) jpyrene Indeno(1,2,3-od)pyrene Dibenzo(a,h)anthracene Benzo(a)hiperylene Coronene Cholestane 1 Cholestane 2 Cholestane 2 Cholestane 3 Cholestane 4 ABB Methylcholestane ABB Ethylcholestane Trisnorhopane Northopane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187<br>1660<br>5021<br>830<br>6722<br>2075<br>332<br>373<br>332<br>664<br>456<br>954      | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>536<br>6308<br>825<br>371<br>371<br>289<br>742<br>289<br>742                          | 373 3358 871 7627 31587 5264 4726 3275 4767 1368 3233 3855 1202 3979 580 4891 2031 207 249 290 622 249 912 1078 0                                                                    | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330<br>2524<br>2937<br>0<br>6992<br>9723<br>1614<br>1407<br>1076<br>3393<br>1117<br>2317<br>2110<br>1820                 | 290 0 4882 1324 5544 70957 0 6330 5792 5213 2193 2772 5751 1945 5048 0 8358 11543 1862 1738 1531 3641 1200 2441 2482 2276                                                                                                    | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162<br>0<br>5161<br>10031<br>1915<br>1873<br>1457<br>3579<br>1457<br>2289<br>2248<br>1956  | 0.24 0.26 | 0.68                                  |
|     | Phenanthrene Anthracene Dibuty/phthalate Bis-2-Eity/hexy/phthalate Bis-2-Eity/hexy/phthalate Diocty/phthalate Diocty/phthalate Piuranthrene Pyrene Chrysene & Tripheny/ene Benzo(a) janthracene Benzo(a) jituoranthrene Benzo(a) jituoranthrene Benzo(a) jituoranthrene Benzo(a) jituoranthracene Benzo(a) jituoranthracene Benzo(a) jituoranthracene Benzo(a) jituoranthracene Denzo(a) jituo | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187<br>1660<br>5021<br>830<br>6722<br>2075<br>332<br>373<br>332<br>664<br>456<br>996<br>0 | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>536<br>6308<br>825<br>371<br>371<br>289<br>742<br>289<br>742<br>701<br>0              | 373<br>3358<br>871<br>7627<br>31587<br>5264<br>4776<br>3275<br>4767<br>1368<br>3233<br>3855<br>1202<br>3979<br>580<br>4891<br>2031<br>207<br>249<br>290<br>622<br>249<br>912<br>1078 | 165 0 3724 1241 5958 92303 0 6454 5958 4882 1945 2689 6330 2524 2937 0 6992 9723 1614 1407 1076 3393 1117 2317 2110 1820 13157                                                                                      | 290 0 4882 1324 5544 70957 0 6330 5792 5213 2193 2772 5751 1945 5048 0 8358 11543 1862 1738 15531 3641 1200 2441 2482 2276 16550                                                                                             | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162<br>0<br>5161<br>10031<br>1915<br>1873<br>1457<br>2289<br>2248<br>1956<br>16107         | 0.24 0.26 | 0.68                                  |
|     | Phenanthrene Anthracene Dibuty/iphthalate Bis-2-Eity/inexy/iphthalate Bis-2-Eity/inexy/iphthalate Diocty/iphthalate Diocty/iphthalate Piuoranthrene Pyrane Chrysene & Tripheny/ene Benzo(a) janthracene Benzo(a) //ituoranthrene Benzo(a) //ituoranthr | 207 3195 996  9253 40331 4398 5436 3734 6141 1867 4025 5187 1660 5021 830 6722 2075 332 373 332 664 456 954 996 0 2199                                                            | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>536<br>6308<br>825<br>371<br>371<br>289<br>742<br>289<br>742<br>701<br>0<br>1608<br>0 | 373 3358 871 7627 31587 5264 4726 3275 4767 1368 3233 3855 1202 3979 580 4891 2031 207 249 290 622 249 912 1078 0                                                                    | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330<br>2524<br>2937<br>0<br>6992<br>9723<br>1614<br>1407<br>1076<br>3393<br>1117<br>2317<br>2110<br>1820<br><i>13157</i> | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193<br>2772<br>5751<br>1945<br>5048<br>0<br>8358<br>11543<br>1862<br>1738<br>1531<br>3641<br>1200<br>2441<br>2482<br>2276<br><i>16550</i><br>2069 | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162<br>0<br>5161<br>10031<br>1915<br>1873<br>1457<br>2289<br>2248<br>1956<br>16107<br>1790 | 0.24 0.26 | 0.68                                  |
|     | Phenanthrene Anthracene Dibuty(phthalate Bis-2-Emylhexy(phthalate Bis-2-Emylhexy(phthalate Diocty(phthalate Diocty(phthalate Pivoranthene Pivoranthrene Benzo(a) anthracene Benzo(a) anthracene Benzo(a) pyrene Indeno(1,2.3-cd)pyrene Dibenzo(a,h)anthracene Benzo(a) pyrene Dibenzo(a,h)anthracene Benzo(a) pyrene Coronene Coronene Coronene Coholestane 1 Cholestane 2 Cholestane 3 Cholestane 4 ABB Methylcholestane ABB Ethylcholestane Trisnorhopane Northopane Northopane Northopane Hopane 1 Hopane 2 Hopane 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 207<br>3195<br>996<br>9253<br>40331<br>4398<br>5436<br>3734<br>6141<br>1867<br>4025<br>5187<br>1660<br>5021<br>830<br>6722<br>2075<br>332<br>373<br>332<br>664<br>456<br>996<br>0 | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>536<br>6308<br>825<br>371<br>371<br>289<br>742<br>289<br>742<br>701<br>0              | 373 3358 871 7627 31587 5264 4726 3275 4767 1368 3233 3855 1202 3979 580 4891 2031 207 249 290 622 249 912 1078 0                                                                    | 165 0 3724 1241 5958 92303 0 6454 5958 4882 1945 2689 6330 2524 2937 0 6992 9723 1614 1407 1076 3393 1117 2317 2110 1820 13157                                                                                      | 290 0 4882 1324 5544 70957 0 6330 5792 5213 2193 2772 5751 1945 5048 0 8358 11543 1862 1738 15531 3641 1200 2441 2482 2276 16550                                                                                             | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162<br>0<br>5161<br>10031<br>1915<br>1873<br>1457<br>2289<br>2248<br>1956<br>16107         | 0.24 0.26 | 0.68<br>0.72                          |
|     | Phenanthrene Anthracene Dibutylphthalate Buytiberzylphthalate Bis-2-Ethylhexylpthalate Dioctylphthalate Fluoranthene Pyrene Chrysene & Triphenylene Benzo(a) janthracene Benzo(b) fluoranthene Benzo(a) jryrene Indeno(1,2,3-od)pyrene Dibenzo(a,h)anthracene Benzo(a) plyrene Coronene Cholestane 1 Cholestane 2 Cholestane 3 Cholestane 4 ABB Methylcholestane ABB Ethylcholestane Trisnorhopane Northopane Northopane Northopane Northopane 3 n-Undecane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 207 3195 996  9253 40331 4398 5436 3734 6141 1867 4025 5187 1660 5021 830 6722 2075 332 373 332 664 456 954 996 0 2199                                                            | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>536<br>6308<br>825<br>371<br>371<br>289<br>742<br>289<br>742<br>701<br>0<br>1608<br>0 | 373 3358 871 7627 31587 5264 4726 3275 4767 1368 3233 3855 1202 3979 580 4891 2031 207 249 290 622 249 912 1078 0                                                                    | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330<br>2524<br>2937<br>0<br>6992<br>9723<br>1614<br>1407<br>1076<br>3393<br>1117<br>2317<br>2110<br>1820<br><i>13157</i> | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193<br>2772<br>5751<br>1945<br>5048<br>0<br>8358<br>11543<br>1862<br>1738<br>1531<br>3641<br>1200<br>2441<br>2482<br>2276<br><i>16550</i><br>2069 | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162<br>0<br>5161<br>10031<br>1915<br>1873<br>1457<br>2289<br>2248<br>1956<br>16107<br>1790 | 0.24 0.26 | 0.68                                  |
|     | Phenanthrene Anthracene Dibuty(phthalate Bis-2-Emylhexy(phthalate Bis-2-Emylhexy(phthalate Diocty(phthalate Diocty(phthalate Pivoranthene Pivoranthrene Benzo(a) anthracene Benzo(a) anthracene Benzo(a) pyrene Indeno(1,2.3-cd)pyrene Dibenzo(a,h)anthracene Benzo(a) pyrene Dibenzo(a,h)anthracene Benzo(a) pyrene Coronene Coronene Coronene Coholestane 1 Cholestane 2 Cholestane 3 Cholestane 4 ABB Methylcholestane ABB Ethylcholestane Trisnorhopane Northopane Northopane Northopane Hopane 1 Hopane 2 Hopane 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 207 3195 996  9253 40331 4398 5436 3734 6141 1867 4025 5187 1660 5021 830 6722 2075 332 373 332 664 456 954 996 0 2199                                                            | 371<br>1897<br>577<br>10390<br>31788<br>2680<br>4370<br>3216<br>4906<br>1154<br>2639<br>2474<br>866<br>4205<br>536<br>6308<br>825<br>371<br>371<br>289<br>742<br>289<br>742<br>701<br>0<br>1608<br>0 | 373 3358 871 7627 31587 5264 4726 3275 4767 1368 3233 3855 1202 3979 580 4891 2031 207 249 290 622 249 912 1078 0                                                                    | 165<br>0<br>3724<br>1241<br>5958<br>92303<br>0<br>6454<br>5958<br>4882<br>1945<br>2689<br>6330<br>2524<br>2937<br>0<br>6992<br>9723<br>1614<br>1407<br>1076<br>3393<br>1117<br>2317<br>2110<br>1820<br><i>13157</i> | 290<br>0<br>4882<br>1324<br>5544<br>70957<br>0<br>6330<br>5792<br>5213<br>2193<br>2772<br>5751<br>1945<br>5048<br>0<br>8358<br>11543<br>1862<br>1738<br>1531<br>3641<br>1200<br>2441<br>2482<br>2276<br><i>16550</i><br>2069 | 291<br>0<br>4620<br>1373<br>5203<br>60975<br>0<br>5827<br>5369<br>4995<br>2372<br>3080<br>7159<br>1790<br>4162<br>0<br>5161<br>10031<br>1915<br>1873<br>1457<br>2289<br>2248<br>1956<br>16107<br>1790 | 0.24 0.26 | 0.68<br>0.72                          |

| n-Tetradecane                                                                                                     | 1027                         | 627         | 246         |                     |                    |                     |                    |                     |
|-------------------------------------------------------------------------------------------------------------------|------------------------------|-------------|-------------|---------------------|--------------------|---------------------|--------------------|---------------------|
| n-Pentadecane                                                                                                     | 1037<br>0                    | 577<br>2144 | 746         | 1034                | 1407               | 1124                | 0.13               |                     |
| n-Pentadecane<br>n-Hexadecane                                                                                     | 2282                         |             | 2321        | 010                 |                    |                     |                    | 0.73                |
|                                                                                                                   |                              | 1154        | 1865        | 910                 | 952                | 1165                | 0.17               |                     |
| n-Heptadecane                                                                                                     | 4025                         | 1814        | 3565        | 869                 | 1241               | 1082                | 0.12               |                     |
| 1-Octadecene                                                                                                      | 1577                         | 825         | 2404        | 786                 | 1034               | 0                   |                    |                     |
| n-Octadecane                                                                                                      | 3029                         | 1361        | 2777        | 662                 | 786                | 957                 | 0.05               |                     |
| 2-Methylnonadecane                                                                                                | 581                          |             |             | 0                   | 0                  | 0                   | 0.11               |                     |
| 3-Methylnonadecane                                                                                                | 1909                         |             |             | 0                   | 0                  | 0                   | 0.61               |                     |
| n-Eicosane                                                                                                        | 1867                         | 124         | 622         | 1531                | 1531               | 1706                | 0.52               |                     |
| Pyrene                                                                                                            | 2199                         | 2268        | 1907        | 1324                |                    |                     | 0.32               |                     |
|                                                                                                                   |                              |             |             |                     | 1365               | 1249                |                    |                     |
| Anthraquinone                                                                                                     | 3153                         | 2597        | 2902        | 1903                | 2069               | 1540                |                    |                     |
| 1,8 Naphthalic Anydride                                                                                           | 34688                        | 16244       | 21389       | 34505               | 40381              | 35669               |                    |                     |
| Methylfluoranthene                                                                                                | 2780                         | 2969        | 1782        | 0                   | 0                  | 1373                |                    |                     |
| Retene                                                                                                            | 913                          | 990         | 580         | 248                 | 165                | 83                  |                    |                     |
| Cyclopenta[cd]pyrene                                                                                              | 9294                         | 7298        | 7586        | 0                   | 0                  | 0                   |                    |                     |
| Benzanthraquinone                                                                                                 | 1950                         | 1154        | 1161        | 2110                | 2648               | 2372                |                    |                     |
| Methylchrysene                                                                                                    | 0                            | 0           | 0           | 0                   | 0                  |                     |                    |                     |
|                                                                                                                   |                              |             |             |                     |                    | 0                   |                    |                     |
| Benzo[a]pyrene                                                                                                    | . 1743                       | 948         | 1409        | 2731                | 2607               | 1498                |                    |                     |
| n-Tetracosane                                                                                                     |                              |             |             | 28216               | 29996              | 53566               | 4.33               | 0.48                |
| n-Octacosane                                                                                                      | 8050                         |             |             | 46214               | 50932              | 74626               | 4.72               | 1.35                |
| Squalene                                                                                                          | 0                            | 0           | 0           | 0                   | 0                  | 0                   |                    |                     |
| Dibenzo[a,e]pyrene                                                                                                | 332                          | 0           | 539         | 0                   | 0                  | 0                   |                    |                     |
| n-Triacontane                                                                                                     | 67135                        | 41848       | 4808        | 33760               | 27969              |                     |                    | 204                 |
|                                                                                                                   |                              |             |             |                     |                    | 43702               | 5.29               | 2.01                |
| n-Dotriacontane                                                                                                   | 27675                        | 15708       | 1658        | 22259               | 21060              | 32339               | 3.46               | 1.02                |
| n-Hexetnacontane                                                                                                  |                              |             |             | 5834                | 8109               | 8033                | 0.8                | 0.32                |
| n-Tetracontane                                                                                                    |                              |             |             | 4261                | 6785               | 3579                | 0.76               | 0.17                |
| Glycerine                                                                                                         |                              |             | 6342        | 7033                | 6951               | 8160                | 2.48               | 2.11                |
| Levoglucosan                                                                                                      | 191321                       | 156343      | 176878      | 61853               | 72115              | 71423               | 0.51               | 0.55                |
| Monopalmitin                                                                                                      | 9958                         | . 500 . 5   |             | 49110               | 46794              | 49209               |                    | 0.55                |
| l '                                                                                                               |                              | •           | •           |                     |                    |                     | 2.51               |                     |
| Monoolein                                                                                                         | 0                            | 0           | 0           | 0                   | 0                  | 0                   | 0                  | 0                   |
| Monosteann                                                                                                        | 14771                        |             |             | 21928               | 7861               | 15455               | 17.46              | 4.77                |
| Cholesterol                                                                                                       | 4025                         | 3010        | 4394        | 0                   | 0                  | 0                   | 0                  | 0                   |
| Stigmaterol                                                                                                       |                              |             |             |                     |                    |                     | 0                  | 0                   |
| Eugenol                                                                                                           | 2282                         | 1237        | 1907        |                     |                    |                     |                    |                     |
| Propylguaicol                                                                                                     | 0                            | 0           | 0           |                     |                    |                     |                    |                     |
|                                                                                                                   | 0                            |             | 0           |                     |                    |                     |                    |                     |
| Guelcyl acetone                                                                                                   |                              | 0           |             |                     |                    |                     |                    |                     |
| Homovenillic acid                                                                                                 | 0                            | 0           | 0           |                     |                    |                     |                    |                     |
| p-methoxyacetone                                                                                                  | 0                            | 0           | 0           |                     |                    |                     |                    |                     |
| Vanillin                                                                                                          | 21452                        | 5236        | 8664        |                     |                    |                     |                    |                     |
| cis-Isoeugeno!                                                                                                    | 0                            | 0           | 0           |                     |                    |                     |                    |                     |
| Isoeugenol                                                                                                        | 6224                         | 2474        | 3689        |                     |                    |                     |                    |                     |
| 3,5-Dimethoxyphenol                                                                                               | 0                            | 0           | 0           |                     |                    |                     |                    |                     |
|                                                                                                                   |                              |             |             |                     |                    |                     |                    |                     |
| Acetovenillone                                                                                                    | 5767                         | 0           | 0           |                     |                    |                     |                    |                     |
| Methyl vanillate                                                                                                  | 0                            | 0           | 0           |                     |                    |                     |                    |                     |
| Propiovenillone                                                                                                   | 0                            | 0           | 0           |                     |                    |                     |                    |                     |
| Syringealdehyde                                                                                                   | 4232                         | 0           | 0           |                     |                    |                     |                    |                     |
| Methoxyeugenol                                                                                                    | 0                            | 0           | 0           |                     |                    |                     |                    |                     |
|                                                                                                                   |                              |             |             |                     |                    |                     |                    |                     |
| Coniferaldehyde                                                                                                   | 0                            | 0           | 0           |                     |                    |                     |                    |                     |
| Acetosyringone                                                                                                    | 0                            | 0           | 1244        |                     |                    |                     |                    |                     |
| Succinic acid                                                                                                     | 5767                         | 3834        | 3565        | 42531               | 56062              | 69340               |                    | 0.06                |
| Octanoic acid                                                                                                     | 7012                         | 4700        | 3565        | 6371                | 7489               | 7575                | 0.38               | 0.2                 |
| Glutaric acid                                                                                                     | 415                          | 536         | 622         | 9474                | 13447              | 15774               |                    |                     |
|                                                                                                                   |                              |             | 0           |                     |                    |                     |                    |                     |
| Adiple acid                                                                                                       | 0                            | 0           |             | 6454                | 7323               | 8366                | 0.23               | 0.0                 |
| Decanoic acid                                                                                                     | 3734                         | 2762        | 2819        | 3930                | 4427               | 4453                | 0.21               | 0.2                 |
| Pimelic acid                                                                                                      | 0                            | 0           | 912         | 6578                | 8730               | 10572               |                    |                     |
| Suberic acid                                                                                                      | 0                            | 0           | 2280        | 18494               | 23832              | 29426               |                    |                     |
| Dodecanoic acid                                                                                                   | 4066                         | 3175        | 3316        | 4468                | 4924               | 4620                | 0                  | 0.13                |
| Azelaic acid                                                                                                      | 1535                         | 1072        | 2363        | 53330               | 73150              | 84157               |                    |                     |
| Pinonic acid                                                                                                      |                              |             |             | 33330               | .5.50              | 5,                  | 0                  | 6.96                |
|                                                                                                                   | 16804                        | 20656       | 17203       |                     |                    |                     |                    | 0.80                |
| Phthalic ecid                                                                                                     | -1577                        | 990         | 2860        | 40297               | 45594              | 50112               | 2                  |                     |
| 1,4-Ben ecid                                                                                                      | 4481                         | 5566        | 9037        | 5834                | 6082               | 7284                |                    |                     |
| 1,3-Ben acid                                                                                                      | 6265                         | 0           | 0           | 3144                | 3931               | 4703                |                    |                     |
| 1,2-Ben acid                                                                                                      | 0                            | 0           | 0           | 13363               | 15350              | 16648               |                    |                     |
| 1,2,4 Ben ecid                                                                                                    | 0                            | 0           | 0           | 4551                | 5006               | 5286                |                    |                     |
|                                                                                                                   |                              |             |             |                     |                    | 0                   |                    |                     |
| Ben-tel acid                                                                                                      | 0                            | 0           | 0           | 0                   | 0                  |                     |                    |                     |
| Abietic acid                                                                                                      | 0                            | 0           | 0           | v                   | 0                  | 0                   |                    |                     |
| Sebacic acid                                                                                                      | 0                            | 0           | 0           | 6537                | 10881              | 9656                |                    |                     |
| Tetradecanoic acid                                                                                                | 10747                        | 8906        | 6259        | 11419               | 14398              | 13568               | 0                  | 0.24                |
| Palmitoleic acid                                                                                                  | 0                            | 0           | 0           | 0                   | 0                  | 0                   |                    |                     |
| Hexadecanoic acid                                                                                                 | 168957                       | 113876      | 71671       | 295196              | 349778             | 337795              | 2.99               | 1.13                |
| Linoleic acid                                                                                                     | 3817                         | 2350        | 1534        | 9474                | 10302              | 10655               |                    |                     |
|                                                                                                                   |                              |             |             |                     | 18660              | 21352               |                    |                     |
| Oleic acid                                                                                                        | 12323                        | 6885        | 4601        | 15722               |                    |                     |                    |                     |
| Linolenic acid                                                                                                    | 0                            |             | 0           | 0                   | 0                  | 0                   |                    |                     |
| Octadecanoic acid                                                                                                 | 32281                        | 12822       | 12643       | 162802              | 186888             | 187502              | 5.75               | 1.8                 |
| Eicosanoic acid                                                                                                   | 6058                         | 3752        | 4726        | 31733               | 33927              | 35836               | 0.12               |                     |
| Docosanoic acid                                                                                                   | 7095                         |             | 8581        | 52254               | 55152              | 58103               |                    |                     |
|                                                                                                                   |                              |             |             |                     |                    | 55314               | 0.21               | 0.12                |
|                                                                                                                   | 6265                         |             | 12187       | 49565               | 48863              |                     | 0.21               | 0.12                |
| Tetracosanoic acid                                                                                                | 3278                         | 0           | 10363       | 50640               | 47001              | 59934               |                    |                     |
|                                                                                                                   |                              | 0           | 5762        | 38808               | 33306              | 52692               |                    |                     |
| Tetracosanoic acid                                                                                                | 0                            |             | 6342        | 7033                | 6951               | 8160                | 2.48               | 2.11                |
| Tetracosanoic acid<br>Octacosanoic acid<br>Triacontanoic acid                                                     | (                            |             |             |                     |                    |                     |                    |                     |
| Tetracosanoic acid<br>Octacosanoic acid<br>Triacontanoic acid<br>Glycerine                                        |                              | 164242      |             | 61853               | 77115              | 71423               | 0.51               | 0.55                |
| Tetracosanoic acid<br>Octacosanoic acid<br>Triacontanoic acid<br>Glycerine<br>Levoglucosan                        | 191321                       |             | 176878      | 61853               | 72115<br>46794     | 71423<br>49209      | 0.51<br>2.51       |                     |
| Tetracosanoic acid<br>Octacosanoic acid<br>Triacontanoic acid<br>Glycerine<br>Levoglucosan<br>Monopalmitin        | 191321<br>9958               |             | 176878      | 49110               | 46794              | 49209               | 2.51               | 0                   |
| Tetracosanoic acid Octacosanoic acid Triacontanoic acid Glycerine Levoglucosan Monopalmitin Monoolein             | 191321<br>9958<br>0          |             |             | 49110<br>0          | 46794<br>0         | 49209<br>0          | 2.51<br>0          | 0                   |
| Tetracosanoic acid<br>Octacosanoic acid<br>Triacontanoic acid<br>Glycerine<br>Levoglucosan<br>Monopalmitin        | 191321<br>9958               |             | 176878      | 49110<br>0<br>21928 | 46794<br>0<br>7861 | 49209<br>0<br>15455 | 2.51<br>0<br>17.46 | 0<br>0<br>4.77      |
| Tetracosanoic acid Octacosanoic acid Triacontanoic acid Glycerine Levoglucosan Monopalmitin Monoolein             | 191321<br>9958<br>0          |             | 176878      | 49110<br>0          | 46794<br>0         | 49209<br>0          | 2.51<br>0          | 0<br>0<br>4.77<br>0 |
| Tetracosanoic acid Octacosanoic acid Triacontanoic acid Glycerine Levoglucosan Monopalmitin Monoolein Monostearin | 191321<br>9958<br>0<br>14771 | 0           | 176878<br>0 | 49110<br>0<br>21928 | 46794<br>0<br>7861 | 49209<br>0<br>15455 | 2.51<br>0<br>17.46 | 0<br>0<br>4.77      |

| 1.  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sample 1<br>(ng/g as received)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| 1.2 | 2-methylnaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| - 1 | I-methylenaphthalene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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| - 1 | 2,4,6-trichlorophenol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| - 1 | l-meth ylisoquinoline                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| ŀ   | etradecanoic acid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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   | other  (b+j+k) fluoranthen  (b+j+k) fluoranthen  Interim RM  Sample 3  (ng/g as received)  901  166  102  70  344  301  265  225  528  313  176  145                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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|     | sinapylaldehyde * other = peak not quantifiable due to interferences MDL defined as half the concentration of the lowest standard SRM 2260, 1494 used as external standards for quantitation Deuterated IS used to account for sample losses HP 5890 Series II GC HP 5972 MS coeluting compounds are indicated in table above by adding to la addition, 9-methylphenanthrene and 4-methylphenanthren compounds at or below the analytical detection limit were still Additional compounds that were analyzed and not listed above benzonaphthothiopene dibenzothiopene dibenzothiopene dibenzothiopene dibenzothiopene dibenzothiopene dibenzothiopene dibenzothiopene anathone acenaphthenequinone 4-methylphenanthrene 1,3-6-dimethylphenanthrene 1,3-2,10+3,9+3,6-dimethylphenanthrene 1,3-2,10+3,9+3,6-dimethylphenanthrene 1,7-dimethylphenanthrene Benzo[a]pyrene-7(8H)-one,9,10-dihydro Detection limits: 4,00 E+1 for 1649a extracts and 1,40 E+2 f Coelution Compounds: chrysene and triphenylene; benzo(b) Nitro-PAH analysis extracts were combined after extraction; Extract fraction used for nitro-PAH analysis was cleaned by  Xanthone Acenaphthenequinone Perinaphthenone 9-methylanthracene Anthraquinone 9-methylanthracene Anthraquinone 9-Anthraaldehyde                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | other  the names together. 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| c              | 27-20R-13B(H),17a(H)-diasterane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| 1-             | 27-20R-13a(H),17ß(H)-diasterane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| - Ic           | 28-20S-13B(H),17a(H)-diasterane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| lc.            | 27-20S-5a(H),14a(H)-cholestane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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|                | 27-20R-5a(H),148(H)-cholestane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| C              | 27-20S-5a(H),14B(H),17B(H)-cholestane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| lc             | 27-20R-5a(H), 14a(H), 17a(H)-cholestane&C29-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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|                | P-numpyrene  We determined the extraction efficiency based upon the rail for calculate the actual loading of compounds in the air par  The calculated results are presented below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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                                                                                                                                                              | I.59 NA  Itative to standard refesults based upon this  Air Particulate I Sample I (ng/g as received) normalized 261 ND                                                                                                                                                                                                                                                                                                                                        | NA<br>4.39                                                                                                                                                                                                                                                                                                                                                                                              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|                | P-nuropyrene  We determined the extraction efficiency based upon the rail for calculate the actual loading of compounds in the air par The calculated results are presented below applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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|                | E-nutropyrene  We determined the extraction efficiency based upon the rat To calculate the actual loading of compounds in the air par The calculated results are presented below  anaphthalene Ruorene phenanthrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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|                | P-numpyrene  We determined the extraction efficiency based upon the rat fo calculate the acual loading of compounds in the air par The calculated results are presented below  application of the calculated results are presented below  application of the calculated results are presented below  application of the calculated results are presented below  application of the calculated results are presented below  application of the calculated results are presented below  application of the calculated results are presented below  application of the calculated results are presented below  application of the calculated results are presented below  application of the calculated results are presented below  application of the calculated results are presented below  application of the calculated results are presented below  application of the calculated results are presented below  application of the calculated results are presented below  application of the calculated results 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|                | P-numpyrene  We determined the extraction efficiency based upon the rail for calculate the actual loading of compounds in the air par The calculated results are presented below happithalene fluorene phenanthrene anthracene fluoranthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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|                | P-numpyrene  We determined the extraction efficiency based upon the rail for calculate the actual loading of compounds in the air par The calculated results are presented below happithalene fluorene phenanthrene anthracene fluoranthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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|                | -nutropyrene  We determined the extraction efficiency based upon the rat To calculate the actual loading of compounds in the air par The calculated results are presented below  apphthalene Ruorene phenanthrene anthracene Ruoranthene pyrene benz(a)anthracene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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|                | P-nitropyrene  We determined the extraction efficiency based upon the rat fo calculate the actual loading of compounds in the air par The calculated results are presented below  anaphthalene fluorene phenanthrene anthracene fluoranthene pyrene benz[a]anthracene chrysene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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|                | P-numpyrene  We determined the extraction efficiency based upon the rat fo calculate the actual loading of compounds in the air par The calculated results are presented below  applitude of the calculated results are presented below  applitude of the calculated results are presented below  applitude of the calculated results are presented below  applitude of the calculated results are presented below  applitude of the calculated results are presented below  applitude of the calculated results are presented below  applitude of the calculated results are presented below  applitude of the calculated results are presented below  applitude of the calculated results are presented below  applitude of the calculated results are presented below  applitude of the calculated results are presented below  applitude of the calculated results are presented below  applitude of the calculated results are presented below  applitude of the calculated results are presented below  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|                | P-nitropyrene  We determined the extraction efficiency based upon the rat fo calculate the actual loading of compounds in the air par The calculated results are presented below  anaphthalene fluorene phenanthrene anthracene fluoranthene pyrene benz[a]anthracene chrysene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| 3              | E-nitropyrene  We determined the extraction efficiency based upon the rat fo calculate the actual loading of compounds in the air par The calculated results are presented below  maphthalene fluorene phenanthrene anthracene fluoranthene pyrene benz[a]anthracene chrysene benz[a]luoranthene benzo[b]fluoranthene benzo[b]fluoranthene benzo[a]pyrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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|                | P-nutropyrene  We determined the extraction efficiency based upon the rat for calculate the actual loading of compounds in the air par The calculated results are presented below naphthalene  fluorene phenanthrene anthracene fluoranthene pyrene  benzo[a]anthracene chrysene benzo[b]fluoranthene benzo[b]f | ND=Not Detected to of our average results ticulate sample 1, we con extraction efficiency not determined not determined 92.8 97.9 104.0 93.8 105.5 110.9 104.8 96.8 84.1 93.8 84.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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|                | -nutropyrene  We determined the extraction efficiency based upon the rat fo calculate the actual loading of compounds in the air par The calculated results are presented below  naphthalene fluorene phenanthrene anthracene fluoranthene pyrene benz(a)anthracene chrysene benz(b)fluoranthene benzo(b)fluoranthene benzo(b)fluoranthene benzo(b)fluoranthene benzo(b)fluoranthene benzo(b)fluoranthene benzo(b)fluoranthene benzo(b)fluoranthene benzo(b)fluoranthene debenzo(b)fluoranthene debenzo(b)fluoranthene debenzo(b)fluoranthene debenzo(b)fluoranthene debenzo(b)fluoranthene debenzo(b)fluoranthene                                                                                                                                                                                                                                                                                                                                                                                                    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|                | -nutropyrene  We determined the extraction efficiency based upon the rat fo calculate the actual loading of compounds in the air par The calculated results are presented below  maphthalene fluorene phenanthrene anthracene fluoranthene pyrene benz(a)anthracene chrysene benz(a)fluoranthene benzo(b)fluoranthene benzo(a)flyrene indeno(1,2,3-cd)pyrene benzo(a)ghyrene indeno(1,2,3-cd)pyrene dibenz(a)fluoranthene benzo(a)fluoranthene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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|                | Printippyrene  We determined the extraction efficiency based upon the rat for calculate the actual loading of compounds in the air par The calculated results are presented below the calculated results are presented below the calculated results are presented below the calculated results are presented below the calculated results are presented below the calculated results are presented below the calculated results are presented below the calculated results are presented between the calculated results are calculated below the calculated results are calculated below the calculated results are calculated below the calculated results are calculated below the calculated results are calculated below the calculated results are calculated below the calculated results are calculated below the calculated results are calculated below the calculated results are calculated re | ND=Not Detected to of our average results ticulate sample I, we connected to other sample I, we connected 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acid ca                                                                                                                                                              | NA 4.39  erence values a extraction efficience sextraction efficience ask for fluoranthene, SRM 1649a Sample 1 (ng/g as received) 480 1250  SRM 1649a Sample 1 ing/g as received 1670                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | we could not see it is  SRM 1649a Sample 2 (ng/g as received) 470 1850  SRM 1649a Sample 2 c ng/g as received 1370 | n the chromatograms  SRM 1649a Sample 3 (ng/g as received) 450 1950  SRM 1649a Sample 3 ng/g as received) 1470      |      |
|                | Antiropyrene  We determined the extraction efficiency based upon the rat fo calculate the actual loading of compounds in the air par The calculated results are presented below  maphthalene fluorene phenanthrene fluorene phenanthrene fluoranthene pyrene benz(a]anthracene chrysene benz(a]anthracene chrysene benz(a[h]uoranthene benzo(a[h]rene benzo(a[h]rene dibenz(a,h]anthracene fluoranthene fluoranthene fluoranthene benzo(a[h]rene dibenz(a,h]anthracene linterim RM Sample 2: for quantification we use 3 mL inst of the two other extractions, there was only one peak for fl For phenols and cresols the amount of the samples is too s  Dibenz(a,l]pyrene [191-30-0] Dbenz(a,e]fluoranthene [3385-75-1]  COMMENTS:  *Possible interference: secondary ion >25% variance fror Isopimanc acid: identification based on impunity found in Acids: calibration curve concentration range = approx. 83  Additional Analytes Analyzed                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ND=Not Detected to of our average results ticulate sample 1, we consider the construction of determined not determined 92.8 97.9 104.0 93.8 105.5 110.9 104.8 96.8 84.1 93.8 84.8 not determined and of 8 mL and in the chapter of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the construction of the 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SRM 1649a Sample 1 (ng/g as received)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | we could not see it is  SRM 1649a Sample 2 (ng/g as received)  SRM 1649a Sample 2 ang/g as received                | NA 5.65  n the chromatograms  SRM 1649a Sample 3 (ng/g as received) 450 1950  SRM 1649a Sample 3 ang/g as received) |      |

| Benzo(cd)pyren-6-one<br>cis-9-n-Octadecenoic acid                                                                                 | 4120<br>>8550**                                                                                                     | 4790<br>>8590=*                                                                           | 5660<br>>8550**                                                 | 4810<br>>8570**       | 8220<br>>8540**    | 7130<br>>8540**                   |  |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------|--------------------|-----------------------------------|--|
| 8,15-Pimaradien-18-oic acid  COMMENTS:                                                                                            | <701                                                                                                                | <704                                                                                      | <701                                                            | <703                  | <700               | <700                              |  |
| *Possible interference: secondary ion >25%                                                                                        | Systiance from primary                                                                                              | ion                                                                                       |                                                                 |                       |                    |                                   |  |
| **Value exceeds the upper limit of the calit quantitated values in samples are suspect 8.15-Pimaradlen-18-olc acid: identificatio | oration; contamination in                                                                                           | method blanks                                                                             |                                                                 |                       |                    |                                   |  |
|                                                                                                                                   | Interio RM                                                                                                          | Interim RM                                                                                | Interior RM                                                     | SRM 1649a             | SRM 1649a          | SRM 1649a                         |  |
|                                                                                                                                   | Sample 1                                                                                                            | Sample 2                                                                                  | Sample 3                                                        | Sample 1              | Sample 2           | Sample 3                          |  |
| Other Carbonyls (n-alkan-2-ones)                                                                                                  | (ngg as received)                                                                                                   | (ng g as received)                                                                        | (ng/g as received)                                              | (ngig as received)    | (ng/g as received) | (ng g us received)                |  |
| 2-C15                                                                                                                             | 1037                                                                                                                | 1209                                                                                      | 1377                                                            | 1259                  | 1293               | 1370                              |  |
| 2-C16                                                                                                                             | 1981                                                                                                                | 2299                                                                                      | 2521                                                            | 2214                  | 2347               | 2379                              |  |
| 2-C17                                                                                                                             | 943                                                                                                                 | 734                                                                                       | 1191                                                            | 1422                  | 1414               | 1300                              |  |
| 2-C18                                                                                                                             | 306                                                                                                                 | 400                                                                                       | 472                                                             | 912                   | 910                | 925                               |  |
| 2-C19                                                                                                                             | 607                                                                                                                 | 705                                                                                       | 738                                                             | 829                   | 911                | 841                               |  |
| 2-C20                                                                                                                             | 466                                                                                                                 | 546                                                                                       | 662                                                             | 244                   | 155                | 215                               |  |
| 2-C21                                                                                                                             | 202                                                                                                                 | 257                                                                                       | 275                                                             | 139                   | 217                | 121                               |  |
| 2-C22                                                                                                                             | 181                                                                                                                 | 183                                                                                       | 222                                                             | 1132                  | 1300               | 836                               |  |
| 2-C23                                                                                                                             | 232                                                                                                                 | 230                                                                                       | 262                                                             | 650                   | 835                | 636 -                             |  |
| 2-C24                                                                                                                             | 4.59                                                                                                                | 448                                                                                       | 437                                                             | 1094                  | 1557               | 1021                              |  |
| 2-C25                                                                                                                             | 487                                                                                                                 | 562                                                                                       | 459                                                             | 416                   | 514                | 354                               |  |
| 2-C26                                                                                                                             | 176                                                                                                                 | 168                                                                                       | 214                                                             | 993                   | 1310               | 1193                              |  |
| 2-C27                                                                                                                             | 129                                                                                                                 | 170                                                                                       | 130                                                             | 1368                  | 1655               | 1262                              |  |
| 2-C28                                                                                                                             | <dl< td=""><td><dl< td=""><td><dl< td=""><td>140</td><td>73.5</td><td>170</td><td></td></dl<></td></dl<></td></dl<> | <dl< td=""><td><dl< td=""><td>140</td><td>73.5</td><td>170</td><td></td></dl<></td></dl<> | <dl< td=""><td>140</td><td>73.5</td><td>170</td><td></td></dl<> | 140                   | 73.5               | 170                               |  |
| 2-C29                                                                                                                             | 123                                                                                                                 | 182                                                                                       | 81.7                                                            | 1288                  | 1602               | 1325                              |  |
| 2-C30                                                                                                                             | 37.4                                                                                                                | 19.1                                                                                      | <dl< td=""><td>888</td><td>570</td><td>399</td><td></td></dl<>  | 888                   | 570                | 399                               |  |
| 2-C31                                                                                                                             | 301                                                                                                                 | 264                                                                                       | 267                                                             | 2611                  | 2588               | 2555                              |  |
| 6,10,14-trimethylpentadecan-2-one                                                                                                 | 624                                                                                                                 | 810                                                                                       | 707                                                             |                       | 966                | 878                               |  |
| Other Fatty Acids                                                                                                                 |                                                                                                                     |                                                                                           |                                                                 |                       |                    |                                   |  |
| C9-F                                                                                                                              | 19585                                                                                                               | 23502                                                                                     | 19585                                                           | 11723                 | 12772              | 14565                             |  |
| C10-F                                                                                                                             | 11723                                                                                                               | 12896                                                                                     | 11723                                                           | 8171                  | 8351               | 8685                              |  |
| CII-F                                                                                                                             | 6207                                                                                                                | 5570                                                                                      | 6207                                                            | 3584                  | 4580               | 3117                              |  |
| C12-F                                                                                                                             | 19329                                                                                                               | 19740                                                                                     | 19329                                                           | 13621                 | 14487              | 14863                             |  |
| C13-F                                                                                                                             | 8762                                                                                                                | 8417                                                                                      | 8762                                                            | 6292                  | 4680               | 5026                              |  |
| C14-F                                                                                                                             | 27636                                                                                                               | 27197                                                                                     | 27636                                                           | 25692                 | 26814              | 2 8 3 6 8                         |  |
| C15-F                                                                                                                             | 12083                                                                                                               | 11955                                                                                     | 12088                                                           | 15318                 | 14546              | 13217                             |  |
| C16-F                                                                                                                             | 90914                                                                                                               | 93810                                                                                     | 90914                                                           | 235747                | 289954             | 278171                            |  |
| C17-F                                                                                                                             | 11458                                                                                                               | 12044                                                                                     | 11458                                                           | 22905                 | 22030              | 23597                             |  |
| C18-F                                                                                                                             | 52487                                                                                                               | 51224                                                                                     | 52487                                                           | 144753                | 165540             | 161933                            |  |
| C20-F                                                                                                                             | 14250                                                                                                               | 20529                                                                                     | 14250                                                           | 41911                 | 37641              | 35538                             |  |
| Others                                                                                                                            |                                                                                                                     |                                                                                           |                                                                 |                       |                    |                                   |  |
| 1-octadecanol                                                                                                                     | 6502                                                                                                                | 8768                                                                                      | 11775                                                           | 9484                  | 11153              | 12536                             |  |
| I-docosanol                                                                                                                       | 7208                                                                                                                | 8522                                                                                      | 4361                                                            | 9958                  | 9826               | 8037                              |  |
| I-tetracosanol                                                                                                                    | 7070                                                                                                                | 7523                                                                                      | 4369                                                            | 17189                 | 16623              | 14153                             |  |
| I-hexacosanol                                                                                                                     | 5718                                                                                                                | 7840                                                                                      | 407                                                             | 29961                 | 22283              | 24773                             |  |
| 1-octacosanol                                                                                                                     | 3504                                                                                                                | 3251                                                                                      |                                                                 |                       |                    | 15902                             |  |
| B-sitosterol                                                                                                                      | 2110                                                                                                                | 1879                                                                                      | 1585                                                            | 1477                  | 1603               | 1425                              |  |
|                                                                                                                                   | 1 For Alkanes, C20,                                                                                                 | CZZ and CZ6 are be                                                                        | low our limit of qua                                            | atiution (LOQ) ≪00    | Ong/g              |                                   |  |
|                                                                                                                                   | 2 Prystane and Phyta                                                                                                | ne, below LOQ (<                                                                          | 000ng'g)                                                        |                       |                    |                                   |  |
|                                                                                                                                   | 3 Hopanes and stema                                                                                                 |                                                                                           |                                                                 |                       |                    |                                   |  |
|                                                                                                                                   | 4 samples SRM 1649                                                                                                  | were concentrated                                                                         | to 0.25 ml prior to a                                           | nalysis; samples Inte | rim RM were conce  | mmed to 0.10 ml prior to analysis |  |
|                                                                                                                                   | 5 Alkyloyolohexane                                                                                                  | Analysis                                                                                  |                                                                 |                       |                    |                                   |  |
|                                                                                                                                   | Calibration Curve                                                                                                   |                                                                                           | Conc. Range                                                     |                       |                    |                                   |  |

Conc. Range 4 0.2, 0.5, 1.0

# Appendix C

# **Laboratory Methods Used**

| Extraction  | other        | 100 C; 2000 psi; 3 cylces of 5 min static; flush 90%; purge 90 sec |                                     |                            | filter                              |                        |                 |                 | 150 C; 1000 psi; 2 static cycles | 10 mL solvent, 2 times; 3.5 mL + 3 times 1 mL |                                                               |                                    |                                     |                                          | 100 C; 2000 psi; 3 cycles of 5 min static; |                        |                 |                 |                        |                      | concentrate to 25 mL                                   | Concentrate using Turbovap and<br>Reactivap            | 40 C; 1500 psi; 2 cycles of 5 min static; 60% flush; purge 60 sec | 100 C; 2000 psi; nitrogen purge 100 psi for 240 sec |                              |
|-------------|--------------|--------------------------------------------------------------------|-------------------------------------|----------------------------|-------------------------------------|------------------------|-----------------|-----------------|----------------------------------|-----------------------------------------------|---------------------------------------------------------------|------------------------------------|-------------------------------------|------------------------------------------|--------------------------------------------|------------------------|-----------------|-----------------|------------------------|----------------------|--------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------|------------------------------|
| Extraction  | Time         | 15 min                                                             | 60 min                              | 3 consecutive - 8 min each | 50 min                              | 3 extractions - 10 min | 20 h            | 10 min          | 7 min                            | 1 h 15 min to 1 h 45 min                      | 1.h                                                           | 8 h                                | 6 h per solvent                     | 25 min per solvent                       | 3 cycles at 5 min each                     | 3 times for 5 min each | 15 min          | 20 h            | 20 min                 | 3 times for 10 min   | 30 min in the solvent; 60 min extraction; 30 min rinse | 10 min per sonication; 50 min total                    |                                                                   | 5 min heat; 5 min static; 180 sec nitrogen purge    | 12 h with each solvent       |
| Extraction  | Solvent      | dichloromethane                                                    | 10% acetonitrile in dichloromethane | dichloromethane            | benzene/P A/hexanes (63/32/5 wt/wt) | dichloromethane        | dichloromethane | dichloromethane | dichloromethane                  | dichloromethane/acetone/hexane (2:3:5)        | 30 mL ethylacetate + 10 ppm<br>hydroxytoluene+ 250 ppm phenol | dichloromethane/hexane (50/50 v/v) | dichloromethane followed by acetone | dichloromethane followed by acetonitrile | dichloromethane                            | dichloromethane        | dichloromethanc | dichloromethane | hexane:acetone (70:30) | dichloromethane      | acetonitrile                                           | dichloromethane (3x15mL) followed by methanol (2x15mL) | dichloromethane:methanol (3:1, v:v)                               | dichloromethane                                     | dichloromethane and methanol |
| Extraction  | Method       | PFE                                                                | sonication                          | sonication                 | sonication                          | sonication             | Soxhlet         | PFE             | PFE                              | sonication                                    | sonication                                                    | Soxhlet - micro < 20 mL            | Soxhlet                             | microwave assisted extraction            | PFE                                        | sonication             | PFE             | Soxhlet         | PFE                    | microwave extraction | Soxtec                                                 | sonication (ultrasonic bath)                           | PFE                                                               | PFE - 2x                                            | Soxhlet                      |
| g extracted | SRM 1649a    | 0.11g                                                              | 0.05 g                              | 0.05 g                     | 0.006 g                             | 0.082 g                | 0.170 g         | 0.035 g         | 0.1 g                            | 0.02 g                                        | 0.03 g                                                        |                                    | 0.1 g                               | 0.10 g                                   | 0.15 g                                     | 0.2126 g               | 0.10 g          |                 | 0.48 g                 | 0.348 g              | 0.25 g                                                 | 0.03 g                                                 | 0.146 g                                                           | 0.033 g                                             | 0.02 g                       |
| g extracted | Air Part. I  | 0.19 g                                                             | 0.05 g                              | 0.05 g                     | 0.006 g                             | g 60:0                 | 0.150 g         | 0.035 g         | 0.1 g                            | 0.02 g                                        | 0.03 g                                                        | 0.01 g                             | 0.1 g                               | 0.10 g                                   | 0.15 g                                     | 0.2101 g               | 0.10 g          | 0.15 g          | 0.58 g                 | 0.357 g              | 0.25 g                                                 | 0.03 g                                                 | 0.154 g                                                           | 0.033 g                                             | 0.02 g                       |
|             | AP Extract I | 1.33 g                                                             | dilute 1 to 10<br>mL                | 0.30 mL                    | 0.001mL direct                      |                        | 0.075 g         | not requested   |                                  |                                               | 0.5 mL                                                        | 0.03 - 0.3 g                       | 0.1 g                               | 1.2 mL                                   | 28                                         | 1 mL                   | not requested   | 2 g             | not requested          | not requested        | not requested                                          | not requested                                          | not requested                                                     | not requested                                       | not requested                |
|             | Lab#         | _                                                                  | 2                                   | 3                          | 4                                   | 5                      | 9               | 6a              | 7                                | ∞                                             | 6                                                             | 02                                 | 11                                  | 12                                       | 13                                         | 14                     | 15              | 91              | 17                     | 18                   | 61                                                     | 20                                                     | 21                                                                | 22                                                  | 23                           |

|                     | Sample extract cleanup method                                                                                                                                                                                                                                                             | quantitation |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
|                     | aminopropyl solid phase extraction (SPE) column; condition and elute with 20 % dichloromethane in                                                                                                                                                                                         |              |
|                     | hexane; to isolate nitroPAHs - semipreparative amino/cyano HPLC fractionation                                                                                                                                                                                                             | SI           |
|                     | filter                                                                                                                                                                                                                                                                                    | ES           |
|                     | filter; solvent exchange to acetonitrile                                                                                                                                                                                                                                                  | ES           |
|                     | filtered and nitrogen blowdown                                                                                                                                                                                                                                                            | SI           |
|                     |                                                                                                                                                                                                                                                                                           | ES           |
| PAF                 | PAH: 5% deactivated silica, split extract; nitroPAH: liquid /liquid extraction with DMSO, HPLC                                                                                                                                                                                            | \$1          |
|                     | -   -                                                                                                                                                                                                                                                                                     |              |
| 1.5                 | 1.5 cm column containt 5 g ot 5% deactivated silica topped with 1 g sodium sulphate - preclean column with 15 mL cyclohexane, add sample with 5 mL cyclohexane, fraction 1 paraffins and                                                                                                  |              |
|                     | biomarkers (15 mL cyclohexane); fraction 2 PAH (15 mL cyclohexane:acetone, 1:1, v:v)                                                                                                                                                                                                      |              |
|                     |                                                                                                                                                                                                                                                                                           | IS           |
|                     | concentrate under nitrogen to 200 uL                                                                                                                                                                                                                                                      | ES           |
|                     | 0.45 um PTFE syringe filter                                                                                                                                                                                                                                                               | SI           |
|                     | concentrate under dry filtered argon to 0.5 mL                                                                                                                                                                                                                                            | SI           |
|                     | filter                                                                                                                                                                                                                                                                                    | SI           |
| Su                  | Supleco SPE LC-SI 12 mL, 2000 mg using hexane and hexane/benzene (1:1) to elute analytes                                                                                                                                                                                                  | SI           |
| nin                 | aminopropyl solid phase extraction (SPE) column; condition and elute with 10 % dichloromethane in                                                                                                                                                                                         |              |
|                     | hexane                                                                                                                                                                                                                                                                                    | IS           |
|                     | none                                                                                                                                                                                                                                                                                      | IS           |
|                     | silica SPE                                                                                                                                                                                                                                                                                | SI           |
|                     | HPLC Phase SEP Silica, Spherisorb 5 micron particles, 25 cm x 10 mm                                                                                                                                                                                                                       | SI           |
| 8                   | add 1 mL of iso-octane; conc to 0.75 mL; SPE (silica gel); add 1mL ACN; conc to 0.75 mL                                                                                                                                                                                                   | ES           |
| Įij.                | filter; bring up to 10 mL volume: take 2 mL through 2x23 mm alumina (1.2% H2O) in pipette                                                                                                                                                                                                 | SI           |
|                     | filtration on a Millex FG Millipore cartridge                                                                                                                                                                                                                                             | ES           |
|                     | centrifugation (20 min at 4000 rpm per sonication)                                                                                                                                                                                                                                        | IS           |
| s                   | silica gel chromatography - fraction 1 n-alkanes (25 mL of hexane); fraction 2 PAH (25 mL hexane:DCM, 6:4, v:v); fraction 3 ketones and quinones (25 mL hexane:ethyl acetate, 5:1, v:v);                                                                                                  |              |
|                     | fraction 4 acids (30 mL ethyl acetate:methanol, 3:1, v:v)                                                                                                                                                                                                                                 | IS + ES      |
| solv<br>solurr<br>m | solvent exchange to hexane; chromatographic separation using 5% (w/w) water deactivated silica column - fraction 1 n-paraffins and biomarkers (15 mL hexane); fraction 2 PAH and some polar (15 mL hexane:acetone, 1:1, v:v); fractions 3 and 4 more polar sompounds (2 x 15 mL methanol) | SI           |
|                     |                                                                                                                                                                                                                                                                                           |              |

|      |            | PAHs                 |                                           | Calibration | Curve                   |
|------|------------|----------------------|-------------------------------------------|-------------|-------------------------|
| Lab# | Instrument | Phase                | Dimensions                                | # points    | range                   |
| 1    | GC/MS      | DB-XLB & DB-17MS     | 60m x 0.25 mm, 0.25um film                | 5           | 150 - 6500 ng/g         |
| 2    | HPLC-FL    | Vydac 201TP54        | 0.46 x 25 cm                              | 5           | 4 - 80 ng/mL            |
| 3    | HPLC-FL    | C-18                 | 15 cm x 4.6 mm, 5 um particle             | 5           | 10 - 250 ppb            |
| 4    | GC/MS      |                      | 30m x 0.25 mm, 0.25um film                | 5           |                         |
| 5    | GC/MS      | HP-5MS               | 30m x 0.25 mm                             | 3           | 1.1 - 39 ng/uL          |
| 6    | GC/MS      | DB-XLB               | 30m x 0.25 mm, 0.25um film                | 5           | 0.1 - 10 ng/uL          |
| 6a   | GC/MS      | DB-XLB & SB Semectic | 30m & 20m x 0.25 mm & 0.2 mm, 0.25um film | 5           | 0.1 - 10 ng/uL          |
| 7    | GC/MS      | DB-5MS               | 30m x 0.25 mm, 0.25um film                | 9           | 0.4 - 64 ng/uL injected |
| 8    | GC/MS      | HP-5MS               | 30m x 0.25 mm, 0.25um film                | 4 to 9      | 0 - 4000 ppb            |
| 9    | GC/MS      | RTx-5                | 30m x 0.25 mm, 0.25um film                | 10          | 0.01 - 5 ng/uL          |
| 10   | GC/MS      | DB-5                 | 30m x 0.25 mm, 0.25um film                | 5           | 10 pg - 100 ng          |
| 11   | GC/MS      | DB-5MS               | 30m x 0.25 mm, 0.25um film                | 3           | 0.1 - 6 ng/uL           |
| 12   | GC/MS      | CP-SIL 8 CB MS       | 30m x 0.25 mm, 0.25um film                | 5           | 0.2 - 40 ng/uL          |
| 13   | GC/MS      | DB-17                | 60m x 0.25 mm, 0.25um film                | 4           | 0.015 - 3 ug/mL         |
| 14   | GC/MS      | DB-5MS               | 30m x 0.25 mm, 0.25um film                | 3           | 1 - 10 ng               |
| 15   | GC/MS      | DB-5                 | 30m x 0.25 mm, 0.25um film                | 5           | 10 - 5000 pg/uL         |
| 17   | HPLC-FL    | Vydac 201TP52 - C18  |                                           | 4           | 0.016 - 20.130mg/ L     |
| 19   | HPLC-FL    | Vydac C18            | 2 x 25cm x 2.1 mm, 5 um particle          | 7           | 150x                    |
| 20   | GC/MS      | DB-1701              | 30m x 0.32 mm, 0.25um film                | 4 or 5      | 167 - 8330 ng/g         |
| 23   | GC/MS      | HP-5MS               | 30m x 0.25 mm, 0.25um film                | 3           |                         |

|      |             | Nitro-PAHs |                            | Calibration | Curve                |
|------|-------------|------------|----------------------------|-------------|----------------------|
| Lab# | Instrument  | Phase      | Dimensions                 | # points    | range                |
| 1    | GC/MS NCI   | DB-17 MS   | 30m x 0.25 mm, 0.25um film | 3           | 1 - 400 ng/g         |
| 6    | GC/HRMS NCI | DB-5       | 60m x 0.25 mm, 0.25um film | 1           | 10 - 80 pg/uL        |
| 6a   | GC/HRMS NCI | DB-5       | 30m x 0.25 mm, 0.25um film | 1           | 10 - 80 pg/uL        |
| 16   | GC/MS       | HP-5MS     | 30m x 0.25 mm, 0.25um film |             | response factor used |

|      |                | Alkanes and Alkenes |                            | Calibration C | Curve            |
|------|----------------|---------------------|----------------------------|---------------|------------------|
| Lab# | Instrument     | Phase               | Dimensions                 | # points      | range            |
| 4    | GC/MS          |                     | 30m x 0.25 mm, 0.25um film | 5             |                  |
| 5    | GC/MS          | HP-5MS              | 30m x 0.25 mm              | 3             | 4 - 50 ng/uL     |
| 8    | GC/MS          | HP-5MS              | 30m x 0.25 mm, 0.25um film | 3 to 6        | 0 - 8000 ppb     |
| 10   | GC/MS          | DB-5                | 30m x 0.25 mm, 0.25um film | 5             | 10 pg - 100 ng   |
| 11   | GC/MS          | DB-5MS              | 30m x 0.25 mm, 0.25um film | 3             | 0.1 - 15 ng/uL   |
| 14   | GC/MS          | DB-5MS              | 30m x 0.25 mm, 0.25um film | 3             | 1 - 10 ng        |
| 20   | GC/MS          | DB-1701             | 30m x 0.32 mm, 0.25um film | 3 or 4        | 167 - 8330 ng/g  |
| 21   | GC-FID & GC/MS | DB-5MS              | 30m x 0.25 mm, 0.25um film | 7             | 1.22 - 128 ng/uL |
| 22   | GC/MS          | 5% phenyl           | 30m x 0.25 mm, 0.25um film | 4             | 1 - 10 ng        |
| 23   | GC/MS          | HP-5MS              | 30m x 0.25 mm, 0.25um film | 3             |                  |

|      | He         | panes, Cholestanes, Sterol | s                          | Calibration Cu | irve            |
|------|------------|----------------------------|----------------------------|----------------|-----------------|
| Lab# | Instrument | Phase                      | Dimensions                 | # points       | range           |
| 4    | GC/MS      |                            | 30m x 0.25 mm, 0.25um film | 5              |                 |
| 5    | GC/MS      | HP-5MS                     | 30m x 0.25 mm              | 3              | 1.3 -14 ng/uL   |
| 8    | GC/MS      | HP-5MS                     | 30m x 0.25 mm, 0.25um film | 6              | 0 - 4000 ppb    |
| 11   | GC/MS      | DB-5MS                     | 30m x 0.25 mm, 0.25um film | 3              | 0.1 - 10 ng/uL  |
| 12   | GC/MS      | CP-SIL 8 CB MS             | 30m x 0.25 mm, 0.25um film | 3              | 0.1 - 1 ng/uL   |
| 20   | GC/MS      | DB-1701                    | 30m x 0.32 mm, 0.25um film | 5_             | 167 - 8330 ng/g |
| 22   | GC/MS      | 5% phenyl                  | 30m x 0.25 mm, 0.25um film | 5              | 0.25 - 2.5 ng   |
| 23   | GC/MS      | HP-5MS                     | 30m x 0.25 mm, 0.25um film | 3              |                 |

|             |               | Carbonyls and Acids |                            | Calibration | Curve           |
|-------------|---------------|---------------------|----------------------------|-------------|-----------------|
| Lab#        | Instrument    | Phase               | Dimensions                 | # points    | range           |
| 4           | GC/MS         |                     | 30m x 0.25 mm, 0.25um film | 5           |                 |
| 11          |               |                     |                            |             | 0.1 - 6 ng/uL   |
| 20          | GC/MS         | DB-1701             | 30m x 0.32 mm, 0.25um film | 2 or 4      | 833 - 8330 ng/g |
| 21 carbonyl | GC-FID& GC/MS | DB-5MS              | 30m x 0.25 mm, 0.25um film | 6           | 0.6 - 20 ng/uL  |
| 21 acid     | GC-FID        | DB-FFAP             | 30m x 0.25 mm, 0.25um film | 8           | 0.6 - 125 ng/uL |
| 23          | GC/MS         | HP-5MS              | 30m x 0.25 mm, 0.25um film | 3           |                 |

|       |            | Phenols |                            | Calibration | Curve             |
|-------|------------|---------|----------------------------|-------------|-------------------|
| Lab # | Instrument | Phase   | Dimensions                 | # points    | range             |
| 4     |            |         |                            | 5           |                   |
| 18    | GC-AED     | DB-17MS | 25m x 0.25 mm, 0.25um film | 8           | 5 - 1000 pg Fe/uL |
| 23    | GC/MS      | HP-5MS  | 30m x 0.25 mm, 0.25um film | 3           |                   |

|      |            | Sugars |                            | Calibration | Curve |
|------|------------|--------|----------------------------|-------------|-------|
| Lab# | Instrument | Phase  | Dimensions                 | # points    | range |
| 4    | GC/MS      |        | 30m x 0.25 mm, 0.25um film | 5           |       |
| 23   | GC/MS      | HP-5MS | 30m x 0.25 mm, 0.25um film | 3           |       |

|      |                                                                                                                               |       | PAHS                                                                                          | _     | corrected for |                                                                                                        |
|------|-------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------|-------|---------------|--------------------------------------------------------------------------------------------------------|
| * 48 | IS/surrogate added prior to extraction                                                                                        | Used? | added prior to analysis                                                                       | Used? | recovery?     | others?                                                                                                |
| -    | deuterated naphthalene, hiphenyl, acenaphthene, phenanthrene, fluoranthene, pyrene, B[a]A, B[a]P, perylene, B[gin]P, DB[a,h]A | ×     |                                                                                               |       | e             |                                                                                                        |
| 7    | ES                                                                                                                            |       |                                                                                               |       | c             |                                                                                                        |
| -    | ES                                                                                                                            |       |                                                                                               | 1     |               |                                                                                                        |
| 4    | deuterated acenaphthene, chrysene, DB[a,h]A                                                                                   | ×     |                                                                                               |       |               |                                                                                                        |
| ~    | deutereated chrysene and DB(a,h)A                                                                                             | ×     |                                                                                               |       | =             |                                                                                                        |
| 6869 | deutereated acenaphthene, anthracene, pyrene, B[a]A, B[a]P, DB[a,h]A, B[ghi]P                                                 |       | deuterated fluoranthene                                                                       | ×     | c             |                                                                                                        |
| ,    | 2-fluorophenol, 2-fluorohiphenyl, and deuterated phenol, 2-chlorophenol, 1,2-dichlorobenzene, nitrobenzene, narnen tembenol   |       | deuterated 1,4-dichlorobenzene, naphthalene, acenaphthalene, phenanthrene, chrysene, perylene | ×     |               |                                                                                                        |
| .    | Pyrend of Leny.                                                                                                               |       |                                                                                               |       |               |                                                                                                        |
| ~    | CI                                                                                                                            |       | rei incoment hannens                                                                          | ,     |               |                                                                                                        |
| 6    | deuterated analogues of all analytes                                                                                          |       | ur-sopropyr octivene                                                                          |       |               |                                                                                                        |
| 2    | deuterated naphthalene, acenaphthene, phenanthrene, chrysene, perylene                                                        | ×     |                                                                                               |       |               |                                                                                                        |
| =    | deuterated naphthalene, phenanthrene, acenphthene, chrysene, DB[a,h]A, perylene, B[a]P                                        | ×     |                                                                                               |       |               |                                                                                                        |
|      | deuterated naphthalene, hiphenyl, phenanthrene, anthracene, pyrene, B[a]A, chrysene, B[k]F, B[e]P, B[a]P,                     |       |                                                                                               |       |               |                                                                                                        |
| 12   | coronene                                                                                                                      | ×     |                                                                                               |       |               |                                                                                                        |
| =    | deutented naphthalene, biphenyl, acenaphthene, phenanthrene, fluoranthene, pyrene, B[a]A, B[a]P, perylene, B[ghi]P, DB[a,h]A  | ×     |                                                                                               |       |               |                                                                                                        |
| 4    | none listed                                                                                                                   | ×     |                                                                                               |       |               |                                                                                                        |
| 2    | 14 deuterated PAHs                                                                                                            | ×     | C13-phenantherene; d12 perylene                                                               |       | 71-80         | o8-naphthalene (added prior to extract concentration; and d10-<br>anthracene (added prior to clean-up) |
| =    | ES                                                                                                                            |       |                                                                                               |       |               |                                                                                                        |
| 9    | ES                                                                                                                            |       |                                                                                               |       |               |                                                                                                        |
| 2    | n-perdeuterotetracosane, peniachloronitrobenzene, and benzo[e]pyrene-d12                                                      |       | 9,10-dichloroanthracene, fluorene-d10, and perylene-d12                                       | ×     | c             |                                                                                                        |
| 23   | deuterated chrysene and DB[a,b]A                                                                                              | ×     |                                                                                               |       |               |                                                                                                        |

| L    |                                                                                                                                                                         | L     | Nitro-PAHs                                              |       | corrected for |         |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---------------------------------------------------------|-------|---------------|---------|
| rap# | IS/surrogate added prior to extraction                                                                                                                                  | Used? | added prior to analysis                                 | Used? | recovery?     | others? |
| _    | deuterated 1-nitorpyrene, 3-nitrofluoranthene, 9-nitroanthracene, and 6-nitrochrysene                                                                                   | ×     |                                                         |       | c             |         |
| 6&68 | deuterated 2-nitrofluorene, 9-nitroanthrasene, 3-nitrofluoranthene, 1-nitropyrene, 6-nitrob[a]P, 1,3 dinitropyrene, 6-nitropyrene, 1,6-dinitropyrene, 1,8-dinitropyrene | ×     | deuterated 2-nitrodibenzodioxin, 7-nitroB[a]A           |       |               |         |
| 2    |                                                                                                                                                                         | ×     |                                                         |       |               |         |
|      |                                                                                                                                                                         |       |                                                         |       |               |         |
| L    |                                                                                                                                                                         |       | Alkanes and Alkenes                                     | _     | corrected for |         |
| Fab. | # IS/surrogate added prior to extraction                                                                                                                                | Used? | added prior to analysis                                 | Used? | recovery?     | others? |
| 7    | deuterated dodecane, hexadecane, eicosane, octacosane, hexatriacontane                                                                                                  | ×     |                                                         |       |               |         |
| ~    | deuterated n-C24                                                                                                                                                        | ×     |                                                         |       |               |         |
| ~    | ES                                                                                                                                                                      |       |                                                         |       |               |         |
| 2    | deuterated eicosane                                                                                                                                                     | ×     |                                                         |       |               |         |
| =    | deuterated eicosane, hexatrioacontane, octacosane                                                                                                                       | ×     |                                                         |       |               |         |
| 14   | pendeuterated n-alkanes: C12, C16, C20, C24, C28, C32, C36                                                                                                              | ×     |                                                         |       |               |         |
| 50   | n-perdeuterotetracosane, pentachloronitrobenzene, and benzo[e]pyrene-d12                                                                                                |       | 9,10-dichloroanthracene, fluorene-d10, and perylene-d12 | ×     | e             |         |
| 21   | C24-d alkane                                                                                                                                                            | ×     |                                                         |       | -             |         |
| 22   | deuterotetracosane                                                                                                                                                      | ×     | I-phenyldodecane                                        | ×     | 'n            |         |
| 23   | deuterated octacosane and hexatriacontane                                                                                                                               | ×     |                                                         |       |               |         |

| _    |                                                                                      |       | added active to anotheric                               | Charle. | 6.000000      | others? |
|------|--------------------------------------------------------------------------------------|-------|---------------------------------------------------------|---------|---------------|---------|
| Lab# | Sysurogate added prior to extraction                                                 | Used? | BOUCO DIOI (O BIRAJOIS                                  | Oscal   | recovery      |         |
|      | aaa-20R-cholestane-d4;cholesterol-2,3,3,4,4,6-d6                                     | ×     |                                                         |         |               |         |
|      | ES                                                                                   |       |                                                         | 1       | ш             |         |
|      | ES                                                                                   |       |                                                         |         |               |         |
|      | deuterated octacosane                                                                | ×     |                                                         |         |               |         |
| 12   | aaa-20R-cholestane-d4                                                                | ×     |                                                         |         |               |         |
|      | n-perdeuterotetracosane, pentachloronitrobenzene, and benzo[e]pyrene-d12             |       | 9,10-dichloroanthracene, fluorene-d10, and perylene-d12 | ×       | =             |         |
|      | B,B-hopane                                                                           | ×     | Sa-androstane                                           | ×       | λ             |         |
|      | deuterated chloestane and cholesterol                                                | ×     |                                                         |         |               |         |
|      |                                                                                      |       | Carbonyls and Acids                                     |         | corrected for |         |
| Lab# | IS/surrogate added prior to extraction                                               | Used? | added prior to analysis                                 | Used?   | recovery?     | others? |
| _    | decanoic acid-d19, heptadecanoic acid-d33, phthalic acid-3,4,5,6-d4; benzaldehyde-d6 | ×     |                                                         |         |               |         |
| 20   | n-perdeuterotetracosane, pentachloronitrobenzene, and benzo[e]pyrene-d12             |       | 9,10-dichloroanthracene, fluorene-d10, and perylene-d12 | ×       | e e           |         |
|      | C18-d alkane                                                                         | ×     | C24-d alkane (for ketones and quinones)                 |         | и             |         |
|      | deuterated heptadecanoic acid                                                        | ×     |                                                         |         |               |         |
|      |                                                                                      |       | Phonole                                                 |         | corrected for |         |
| Lab# | IS/surrogate added prior to extraction                                               | Used? | added prior to analysis                                 | Used?   | recovery?     | others? |
|      | 4,4-dimethoxybenzophenone-d8                                                         | ×     |                                                         |         |               |         |
| 81   | 4-fluoro-2-methylphenlferrocenearboxylate                                            | ×     | 2-methylphenylferrocencarboxylate                       |         | u             |         |
|      | IC formance of half a facing to astrontion                                           | 5     | Sugars<br>added prier to analysis                       | Clear!  | corrected for | others? |
| ab # | ioratiogate added prior to condensus                                                 | Oscar |                                                         |         |               |         |
|      | levoglucosan-13C6                                                                    | ×     |                                                         |         |               |         |
|      | ES                                                                                   |       |                                                         |         |               |         |
| -    | levoglucosan-13C6                                                                    | *     |                                                         |         |               |         |

|      | g extracted | g extracted | Extraction                    | Extraction                                                                      | Extraction                                             | Extraction                                                          |
|------|-------------|-------------|-------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------------|
| Lab# | Interim RM  | SRM 1649a   | Method                        | Solvent                                                                         | Time                                                   | other                                                               |
| -    | 0.03 g      | 0.1 g       | PFE                           | dichloromethane for 3 samples each and<br>methanol for an additional 3 samples  | арргох. 20 min                                         | 100 C; 2000 psi; 3 cylces of 5 min static; flush 90%; purge 180 sec |
| la   | 0.03 g      | 0.03 g      | PFE                           | dichloromethane                                                                 |                                                        | 3 cycles of 5 min static extraction;<br>2000 psi; 100 C             |
| 3    | 0.01 g      | 0.01 g      | sonication                    | dichloromethane                                                                 | 24 min                                                 |                                                                     |
| 3a   | 0.01 g      | 0.01 g      | sonication                    | dichloromethane:acetonitrile (2:1 v/v)                                          | 24 min                                                 |                                                                     |
| 4    | 0.03 g      | 0.03 g      | sonication                    | benzene/isopropyl alcohol/hexanes                                               | approx. 60 min                                         |                                                                     |
| 9    | 0.1 g       | 0.1 g       | microwave                     | dichloromethane                                                                 | 10 min                                                 |                                                                     |
| 7    | 0.1 g       | 0.1 g       | PFE (SW 846)                  | dichloromethane                                                                 | 7 min                                                  | 150 C; 1000 psi; 2 static cycles                                    |
| ∞    | 0.02 g      | 0.02 g      | sonication                    | dichloromethane/acetone/hexane (2:3:5)                                          | 1 h 15 min to 1 h 45 min                               | 10 mL solvent, 2 times; 3.5 mL + 3 times 1 mL                       |
|      |             |             |                               |                                                                                 |                                                        | IS are added to particulate and                                     |
| 6    | 0.02 g      | 0.02 g      | sonication                    | 30 mL ethylacetate + 3.6 mM triethylamine                                       | е<br>1 h                                               | anowed to age in sealed container before extraction                 |
| 10   | 0.01 g      | 0.23 g      | Soxblet                       | dichloromethane                                                                 | 8 h                                                    |                                                                     |
| 11   | 0.03 g      | 0.3 g       | Soxhlet                       | dichloromethane followed by acetone                                             | min. 6 h per solvent                                   |                                                                     |
| 12   | 0.03 g      | 0.10 g      | microwave assisted extraction | dichloromethane followed by acetonitrile                                        | 25 min per solvent                                     |                                                                     |
| 13   | 0.04 g      | 0.4 g       | PFE                           | dichloromethane                                                                 | 3 cycles at 5 min each                                 | 100 C; 2000 psi; 3 cycles of 5 min static;                          |
| 16   | 0.03 g      | 0.17 g      | Soxblet                       | dichloromethane                                                                 | 20 h                                                   |                                                                     |
| 17   | 0.11 g      | 0.49 g      | PFE                           | hexane:acetone (70:30)                                                          | 20 min                                                 |                                                                     |
| 18   | 0.09 g      | 0.11 g      | microwave assisted extraction | cyclohexane/acetone (1:1)                                                       | 2 x 4 min                                              |                                                                     |
| 19   | 0.03 g      | 0.04 g      | Soxtec                        | acetonitrile w/ anti-oxidizing agent, TBH (260 min extraction boiling mode; mg) | X0 min extraction boiling mode;<br>60 min rinsing mode | concentrate to 10 mL                                                |
| 20   | 0.03 g      | 0.03 g      | sonication (ultrasonic bath)  | dichloromethane (3x15mL) followed by methanol (2x15mL)                          | 10 min per sonication; 50 min<br>total                 | Concentrate using Turbovap and<br>Reactivap                         |
| 21   | 0.108       | 0.121       | PFE                           | dichloromethane:methanol (3:1)                                                  | 2 - 5 min static cycles                                | 40 C; 1500 psi; flush 60%, purge 60 sec                             |
| 22   | 0.03 g      | 0.03 g      | PFE - 2x                      | dichloromethane .                                                               | 5 min heat; 5 min static; 180 sec nitrogen purge       | 100 C; 2000 psi; nitrogen purge 100<br>psi for 240 sec              |
|      |             |             |                               |                                                                                 |                                                        |                                                                     |

| <b>Nsed</b> |
|-------------|
| Methods     |
| Summary of  |

| 1<br>4°<br>1 | Sample extract cleanup method                                                                                                                                                                                                        | Method of quantitation |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
|              | conc with solvent change to hexane for dichloromethane extracts; aminopropyl solid phase                                                                                                                                             |                        |
| _            | extraction (SFE) column; condition and elute with 40 mL of 20 % memorialisms. In mexane, we isolate nitroPAHs - semipreparative amino/cyano HPLC fractionation                                                                       | SI                     |
| la<br>Ia     | aminopropyl SPE with 20 mL of 2% dichloromethane in hexane                                                                                                                                                                           | SI                     |
| 3            | filtration                                                                                                                                                                                                                           | ES                     |
| 3a           | filtration                                                                                                                                                                                                                           | ES                     |
| 4            |                                                                                                                                                                                                                                      | SI                     |
| 9            | extract split in 2 - 1. PAH - silica column; 2. nitroPAH - DMSO vack extract with cyclohexane; HPLC with silica column, Si 60, 250 x 4.6 mm, 5 um particle size                                                                      | IS                     |
| 7            |                                                                                                                                                                                                                                      | SI                     |
|              | concentrate under nitrogen to 200 uL                                                                                                                                                                                                 | ES                     |
|              | Centrifuge; conc; 0.45 um PTFE syringe filter; methoxyphenols determined by GC/MS as acetate                                                                                                                                         |                        |
| 0            | derivatives after treatment with acetic annyahide/pyriquine (10% v/v); jevogjucosan determined as un<br>TMS derivative after treatment with TMSI (10% v/v)                                                                           | IS                     |
| 2            | syringe filtered: nitrogen blowdown                                                                                                                                                                                                  | SI                     |
| =            | filter                                                                                                                                                                                                                               | SI                     |
| 12           | none                                                                                                                                                                                                                                 | SI                     |
|              | aminopropyl solid phase extraction (SPE) column; condition and elute with 15 mL of 10%                                                                                                                                               |                        |
| 13           | dichloromethane in hexane                                                                                                                                                                                                            | SI                     |
| 16           | HPLC Phase SEP Silica, Spherisorb 5 micron particles, 25 cm x 10 mm                                                                                                                                                                  | SI                     |
| 17           | add 1 mL of iso-octane; conc to 0.75 mL; SPE (silica gel) in homemade glass cartridges; add 1 mL ACN; conc to 0.75 mL                                                                                                                | ES                     |
|              | filter; bring up to 10 mL volume: take 8 mL through 5 g alumina (1.2% H2O) with cyclohexane                                                                                                                                          |                        |
| 18           | and cyclohexane plus dichloromethane (3:1 v/v)                                                                                                                                                                                       | IS                     |
| 19           | filtration on a Millex FG Millipore cartridge                                                                                                                                                                                        | ES                     |
| 20           | centrifugation (20 min at 4000 rpm per sonication); filtration through 0.45 um PTFE membrane filter                                                                                                                                  | IS                     |
| 21           | silica gel chromatography - fraction 1 alkanes, 25 mL hexane; fraction 2 PAH 25 mL hexane:dichloromethane (6:4); fraction 3 ketones and quinones 25 mL hexane:ethylacetate (5:1); acids and sugars 30 mL ethylacetate:methanol (3:1) | IS and ES              |
|              | solvent exchange to hexane; chromatographic separation using 5% (w/w) water deactivated silica column - fraction 1 n-paraffins and biomarkers (15 mL hexane); fraction 2 PAH and some polar (                                        |                        |
| 22           | 15 mL hexane:acetone, 1:1, v:v); fractions 3 and 4 more polar sompounds (2 x 15 mL methanol)                                                                                                                                         | SI                     |

|        |                | PAHs                |                                  | Calibration ( | Curve                   |
|--------|----------------|---------------------|----------------------------------|---------------|-------------------------|
| Lab#   | Instrument     | Phase               | Dimensions                       | # points      | range                   |
| 1      | GC/MS          | DB-17MS             | 60m x 0.25 mm, 0.25um film       | 5             | 7 - 700 ng/g            |
| la     | GC/MS          | DB-17 MS            | 60m x 0.25 mm, 0.25um film       | 5             | 40 - 2000 ng            |
| 3 & 3a | HPLC-FL        | LC-18               | 15 cm x 4.6 mm, 5 um particle    | 5             | 10 - 500 ppb            |
| 4      | GC/MS          | HP-5MS              | 30m x 0.25 mm, 0.25um film       | 3-5           | see notes for APT01     |
| 6      | GC/MS          | DB-XLB              | 30m x 0.25 mm, 0.25um film       | 5             | 0.05 - 10 ng/uL         |
| 7      | GC/MS          | DB-5MS              | 30m x 0.25 mm, 0.25um film       | 9             | 0.4 - 64 ng/uL injected |
| 8      | GC/MS          | HP-5MS              | 60m x 0.25 mm, 0.25um film       | 5             | 1 - 500 ppb             |
| 10     | GC/MS          | DB-5                | 30m x 0.32 mm                    | 5             | 10 - 1500 ng            |
| 11     | GC/MS          | DB-5MS              | . 30m x 0.25 mm, 0.25um film     | 5             | 0.1 - 15 ng/uL          |
| 12     | GC/MS          | CP-SIL 8 CB MS      | 30m x 0.25 mm, 0.25um film       | 6             | 0.2 - 40 ng/uL          |
| 13     | GC/MS          | DB-17               | 60m x 0.25 mm, 0.25um film       | 5             | 0.04 - 4 ug/mL          |
| 17     | HPLC-FL        | Vydac 201TP52 - C18 |                                  | 4             | 0.016 - 20.13 mg/ L     |
| 18     | GC/ion trap MS | Phenomenex ZB-50    | 30m x 0.25 mm, 0.25um film       | 4             | 0.1 - 20 ng             |
| 19     | HPLC-FL        | Vydac C18           | 2 x 25cm x 2.1 mm, 5 um particle | 7             | 150x                    |
| 204    | GC/MS          | DB-1701             | 30m x 0.32 mm, 0.25um film       | 6             | 83.3 - 8330 ng/g        |

|      |            | Nitro-PAHs      |                            | Calibration ( | Curve                |
|------|------------|-----------------|----------------------------|---------------|----------------------|
| Lab# | Instrument | Phase           | Dimensions                 | # points      | range                |
| 1    | GC/MS NCI  | DB-17 MS        | 30m x 0.25 mm, 0.25um film | 7             | 1 - 2000 ng/g        |
| 6    | GC/HRMS    | DB-5            | 60m x 0.25 mm, 0.25um film | 1             | 8 - 85 pg/uL         |
| 12   | GC/MS      | CP-SIL 24 CB-MS | 30m x 0.25 mm, 0.25um film | 7             | 0.1 - 2 ng/uL        |
| 16   | GC/MS NCI  | DB-17           | 50m x 0.25 mm, 0.25um film |               | response factor used |

|      |            | Alicanes and Alicenes |                            | Calibration C | urve                |
|------|------------|-----------------------|----------------------------|---------------|---------------------|
| Lab# | Instrument | Phase                 | Dimensions                 | # points      | range               |
| 1    | GC/MS      | DB-17 MS              | 60m x 0.25 mm, 0.25um film | 4             | 1 - 10 ug/g         |
| 4    | GC/MS      | HP-5MS                | 30m x 0.25 mm, 0.25um film | 3-5           | see notes for APT01 |
| 8    | GC/MS      | HP-5MS                | 60m x 0.25 mm, 0.25um film | 5             | 1 - 500 ppb         |
| 10   | GC/MS      | DB-5                  | 30m x 0.32 mm              | 5             | 60 - 10000 ng       |
| 11   | GC/MS      | DB-5MS                | 30m x 0.25 mm, 0.25um film | 5             | 0.1 - 15 ng/uL      |
| 12   | GC/MS      | CP-SIL 8 CB-MS        | 30m x 0.25 mm, 0.25um film | 4             | 1 - 12 ng/uL        |
| 13   | GC/MS      | DB-17                 | 60m x 0.25 mm, 0.25um film | 5             | 0.03 - 66 ug/mL     |
| 20°  | GC/MS      | DB-1701               | 30m x 0.32 mm, 0.25um film | 6             | 83 - 8330 ng/g      |
| 21   | GC-FID     | DB-5MS                | 30m x 0.25 mm, 0.25um film | 6             | 1.3 - 90 ng/uL      |
| 22   | GC/MS      | 5% phenyl             | 30m x 0.25 mm, 0.25um film | 5             | 1 - 10 ng           |

|                 | Но         | panes, Cholestanes, Sterol | 8                          | Calibration C | turve               |
|-----------------|------------|----------------------------|----------------------------|---------------|---------------------|
| Lab#            | Instrument | Phase                      | Dimensions                 | # points      | range               |
| 1               | GC/MS      | DB-17 MS                   | 60m x 0.25 mm, 0.25um film | 4             | 1 - 10 ug/g         |
| 4               | GC/MS      | HP-5MS                     | 30m x 0.25 mm, 0.25um film | 3-5           | see notes for APT01 |
| 8               | GC/MS      | HP-5MS                     | 60m x 0.25 mm, 0.25um film | 5             | 1 - 500 ppb         |
| 12              | GC/MS      | CP-SIL 8 CB MS             | 30m x 0.25 mm, 0.25um film | 4             | 0.1 - 4 ng/uL       |
| 20 <sup>4</sup> | GC/MS      | DB-1701                    | 30m x 0.32 mm, 0.25um film | 5 or 6        | 83.3 - 8330 ng/g    |
| 21              | GC-FID     | DB-5MS                     | 30m x 0.25 mm, 0.25um film | 6             | 0.5-20 ng/uL        |
| 22              | GC/MS      | 5% phenyl                  | 30m x 0.25 mm, 0.25um film | 7             | 0.125 - 5.0 ng      |

|      |            | Carbonyls and Acids |                            | Calibration C | Curve               |
|------|------------|---------------------|----------------------------|---------------|---------------------|
| Lab# | Instrument | Phase               | Dimensions                 | # points      | range               |
| 4    | GC/MS      | HP-5MS              | 30m x 0.25 mm, 0.25um film | 3-5           | see notes for APT01 |
| 20°  | GC/MS      | DB-1701             | 30m x 0.32 mm, 0.25um film | 3-6           | 83.3 - 8330 ng/g    |
| 21   | GC-FID     | DB-5MS/DB-FFAP      | 30m x 0.25 mm, 0.25um film | 9             | 0.6-120 ng/uL       |

|      |            | Phenols          | A PAGE 10 THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STAT | Calibration C | Curve               |
|------|------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------|
| Lab# | Instrument | Phase            | Dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | # points      | range               |
| 4    | GC/MS      | HP-5MS           | 30m x 0.25 mm, 0.25um film                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3-5           | see notes for APT01 |
| 9    | GC/MS      | RTX-5 amine)     | 30m x 0.25 mm, 0.5um film                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 10            | 0.01 - 2.0 ug/mL    |
| 18   | GC-AED     | Phenomenex ZB-50 | 30m x 0.25 mm, 0.25um film                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 4             | 1 - 1000 pg Fe/uL   |

|      |            | Sugars        |                            | Calibration C | urve                |
|------|------------|---------------|----------------------------|---------------|---------------------|
| Lab# | Instrument | Phase         | Dimensions                 | # points      | range               |
| 4    | GC/MS      | HP-5MS        | 30m x 0.25 mm, 0.25um film | 3-5           | see notes for APT01 |
| 9    | GC/MS      | RTX-5 (amine) | 30m x 0.25 mm, 0.5um film  | 10            | 0.025 - 25 ug/ml.   |
| 21   | GC-FID I   | DB-5MS        | 30m x 0.25 mm, 0.25um film | 8             | 0.5-100 ng/uL       |

"SRM 1649a samples were analyzed using two different calibration curves. The QC check standards associated with the SRM 1649a samples analyzed using the first curve passed for the PAHs and retene only). A second analysis using a different calibration curve was performed for quantition of all of the other analysis (the PAHs and retene failed QC check standards on the second analysis). Therefore, the PAHs and retene were reported from the first analysis and all of the other analysis were reported from the second analysis. The first calibration curve is the same as the one used for quantitation of the interim RM samples. The second calibration curve used 4 or 5 points for the carbonyls (concentration range of approximately 833-8330 ng/g or 167-8330 ng/g, 4, 5, or 6 points for the alkanes (concentration range of approximately 833-, 167-, or 83.3-8330 ng/g), and 5 or 6 points for the hopeanes and cholestanes (concentration range of approximately 833-8330 ng/g). Additionally, some samples required a diluted re-analysis for some analyses due to those analyses exceeding the upper limit of the calibration curve in the original analysis. These samples were analyzed using a third calibration curve.

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| Lab#<br>1<br>1a<br>3 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Used? | added prior to analysis                                                               | Used? | recovery?     |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------------------|-------|---------------|
| 1<br>1a<br>3         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |                                                                                       |       |               |
| 1 la                 | deuterated napnibatene, opnienyt, acenapnibene, puenanimene, nymene, pyrene, blaje, blaje, perytene,<br>Richtip, DRIa hlA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ×     |                                                                                       |       | E             |
| 1a<br>3              | deuterated naphthalene, biphenyl, acenaphthene, phenanthene, fluoranthene, pyrene, B[a]A, B[a]P, perylene,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |       |                                                                                       |       |               |
| 3                    | B[ghiJP, DB[a,h]A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ×     |                                                                                       |       | ď             |
|                      | BS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | _     |                                                                                       |       |               |
| 38                   | BS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                                                                                       |       |               |
| 4                    | deuterated accnaphthene, chrysene, DB[a,h]A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ×     |                                                                                       |       |               |
| 9                    | deutereated accomplutane, antitracene, pyrene, B[a]A, B[a]P, DB[a,b]A, B[ghi]P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |       | deuterated fluoranthene                                                               | ×     | u             |
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| 2                    | desicrated naphthalenc, biphenyl, phenanthrenc, pyrenc, B[a]A, chrysenc, B[k]F, B[a]F, desicrated naphthalenc, biphenyl, phenanthrenc, pyrenc, B[a]A, chrysenc, B[k]F, B[a]F, Cornence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ( ×   |                                                                                       |       |               |
| =                    | deuterated naphthalene, biphenyl, accamphthene, phenanthrene, fluoranthene, pyrene, B[a]A, B[a]P, perylene, Blehille, DBJahlA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ×     |                                                                                       |       |               |
| 12                   | BS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                                                                                       |       |               |
| 182                  | 3-fluorophenanthrene, 1,3-difluorochrysene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ×     |                                                                                       |       |               |
| 19                   | BS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |                                                                                       |       |               |
| 20                   | n-perdeuterotetracosane, pentachloronitrobenzene, and benzo[e]pyrene-d12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       | 9,10-dichloroanthracene, fluorene-d10, and perylene-d12                               | ×     | u             |
| -                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       | Nitro-PAH <sup>e</sup>                                                                |       | corrected for |
| Lab #                | LS/surrogste added prior to extraction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Used? | added prior to analysis                                                               | Used? | recovery?     |
| -                    | me, and 6-nitrochrysene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ×     |                                                                                       |       | u             |
| ٠                    | deuterated 2-nitrofluorene, 9-nitroanthracene, 3-nitrofluoranthene, 1-nitropyrene, 6-nitroehrysene, 6-nitroB[a]P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | *     | deuterated 2-nitrodibenzodioxin, 7-nitroBfalA                                         |       | ٨             |
| 12                   | deuterated 1-nitorpyrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ×     |                                                                                       |       |               |
| 16                   | deuterated 2-nitrofluoranthene and 1-nitropyrene                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ×     |                                                                                       |       |               |
|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |                                                                                       |       |               |
|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       | Alkanes and Alkenes                                                                   |       | corrected for |
| Lab#                 | IS/surrogate added prior to extraction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Used? | added prior to analysis                                                               | Used? | recovery?     |
| 1                    | deuterated n-dodecane, n-cicosane, n-triacontane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ×     |                                                                                       |       | а             |
| 4                    | deuterated dodecane, hexadecane, eicosane, octacosane, hexatriacontane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ×     |                                                                                       |       |               |
| 80                   | BS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | _     |                                                                                       |       |               |
| 10                   | deuterated C19, C20, and C24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ×     |                                                                                       |       |               |
| 11                   | deuterated eioosane, hexatrioacontane, octacosane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ×     |                                                                                       |       |               |
| 12                   | deuterated dodecame, eicosmae, and octacosmae                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ×     |                                                                                       |       |               |
| 13                   | deuterated n-dodecane, n-cicosane, n-triacontane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ×     |                                                                                       |       |               |
| 70                   | n-perdeuterotetracosane, pentachloronitrobenzzae, and benzo[e]pyrene-d12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       | 9,10-dichloroanthracene, fluorene-d10, and perylene-d12                               | ×     | ď             |
| 21                   | C2A-d alkane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ×     |                                                                                       |       |               |
| 22                   | deuterotetracoane                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ×     | 1-phenyldodecane                                                                      | ×     | y             |

# Appendix D

# Charts of Air Particulate Extract I (QA01EXT01) and SRM 1649a Results by Analyte

See Tables 1 and 3 for results reported as < number, detection limit, etc.

Charts for analytes with only one reported numerical result are not included in this appendix.

For Air Particulate Extract I plots:

Solid line: exercise assigned value

Dotted line:  $z = \pm 1$ , i. e., 25 % from assigned value

Dotted/dashed line:  $z = \pm 2$ , i. e., 50 % from assigned value

Dashed line:  $z = \pm 3$ , i. e., 75 % from assigned value

#### For SRM 1649a plots:

Solid line: material certified concentration or target value (see caption of each plot)

Dotted line: 95 % confidence interval (CI)

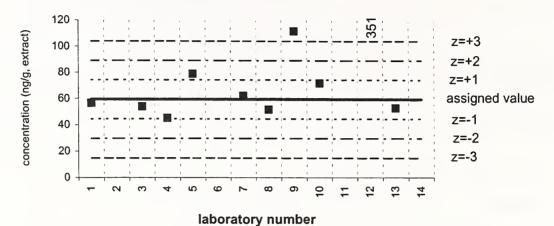
Dashed line: 30 % from 95 % confidence interval (CI)

### naphthalene

## Air Particulate Extract I (QA01EXT01)

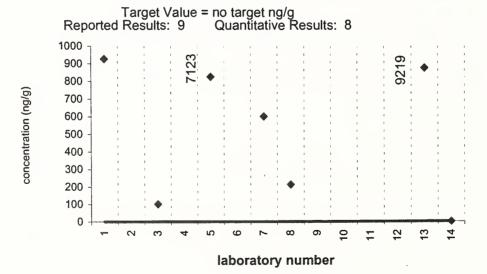
Assigned value = 59.4 ng/g s = 10.3 ng/g 95% CL = 10.8 ng/g (extract)

Reported Results: 10 Quantitative Results: 10



#### -

#### naphthalene



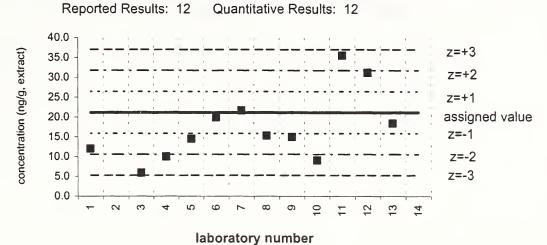
D-2



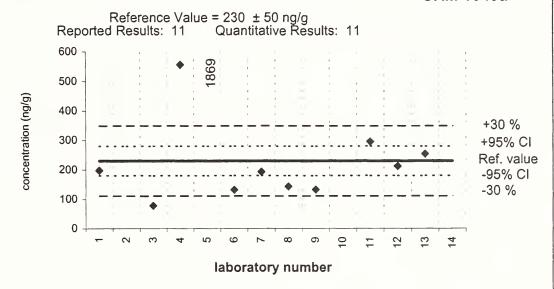
## Air Particulate Extract I (QA01EXT01)

Assigned value = 21.2 ng/g s = 8.2 ng/g 95% CL = 6.9 ng/g (extract)

Reported Results: 12 Quantitative Results: 12





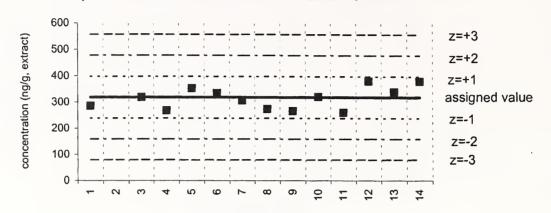


#### phenanthrene

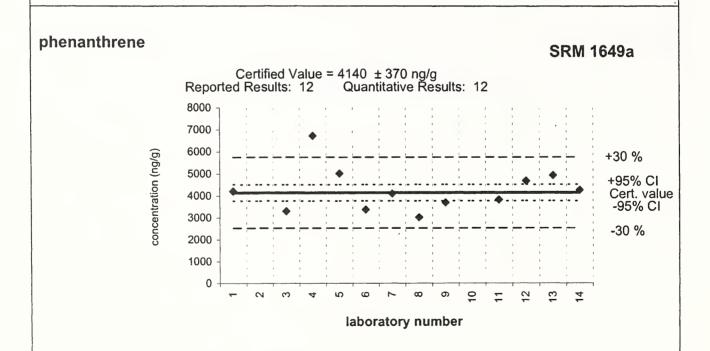
#### Air Particulate Extract I (QA01EXT01)

Assigned value = 319 ng/g s = 43 ng/g 95% CL = 29 ng/g (extract)

Reported Results: 13 Quantitative Results: 13



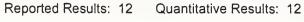
laboratory number

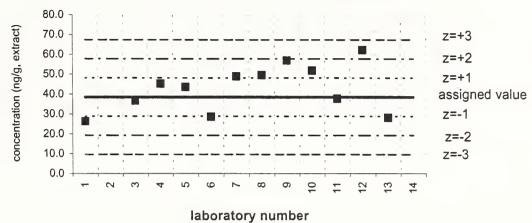




## Air Particulate Extract I (QA01EXT01)

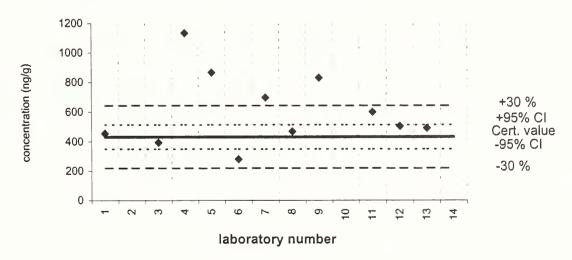
Assigned value = 38.5 ng/g s = 13.1 ng/g 95% CL = 12.1 ng/g (extract)





#### anthracene

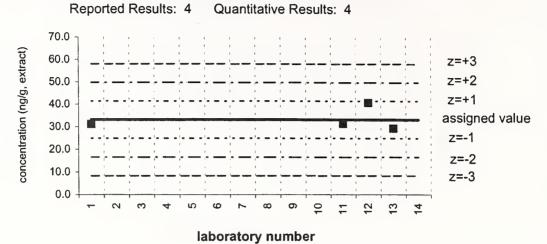
Certified Value = 432 ± 82 ng/g
Reported Results: 11 Quantitative Results: 11



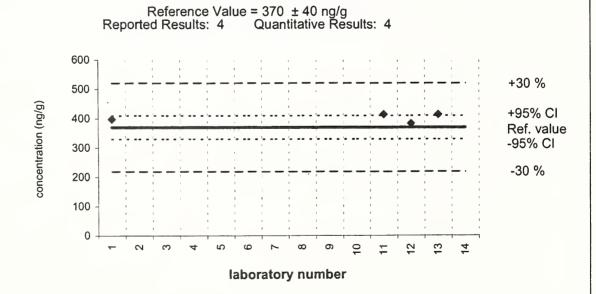


# Air Particulate Extract I (QA01EXT01)

Assigned value = 33.2 ng/g s = 5.2 ng/g 95% CL = 8.2 ng/g (extract)



# 1-methylphenanthrene

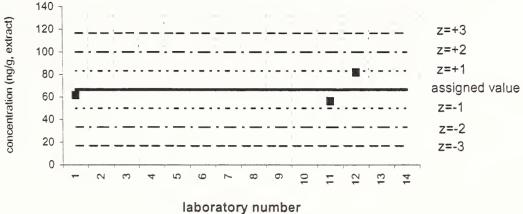


# 2-methylphenanthrene

## Air Particulate Extract I (QA01EXT01)

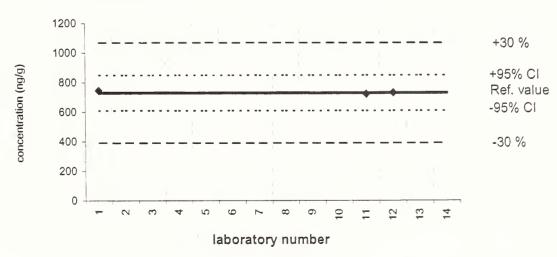
Assigned value = 66.7 ng/g s = 13.5 ng/g 95% CL = not calc. ng/g (extract)





# 2-methylphenanthrene

Reference Value = 730  $\pm$  120 ng/g Reported Results: 3 Quantitative Results: 3

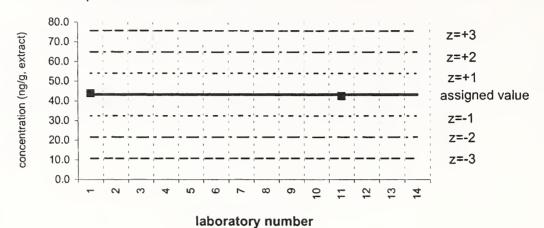


#### 3-methylphenanthrene

#### Air Particulate Extract I (QA01EXT01)

Assigned value = 43.3 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)

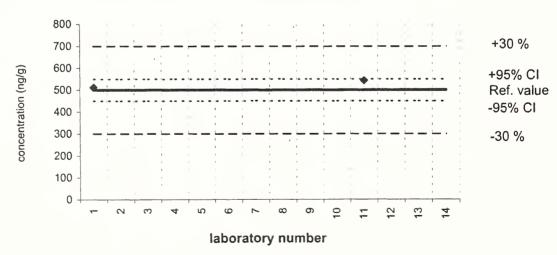
Reported Results: 2 Quantitative Results: 2

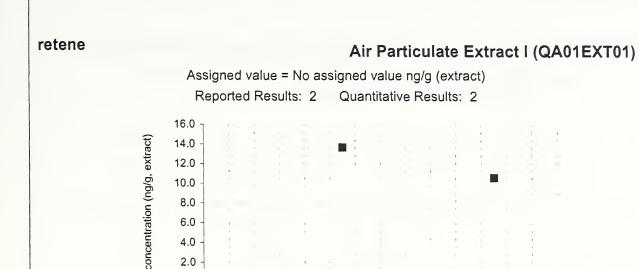


# 3-methylphenanthrene

#### SRM 1649a

Reference Value =  $500 \pm 50 \text{ ng/g}$ Reported Results: 2 Quantitative Results: 2

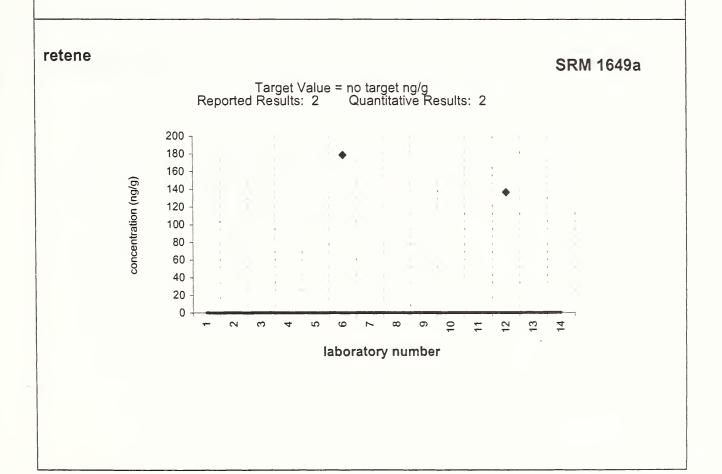




4.0 2.0 0.0

laboratory number

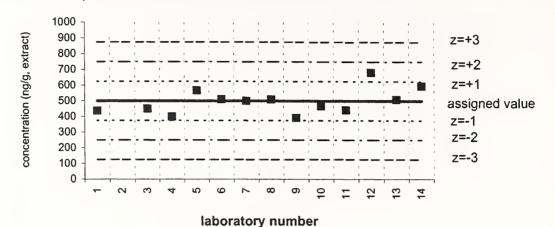
12 13



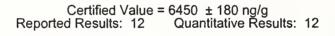


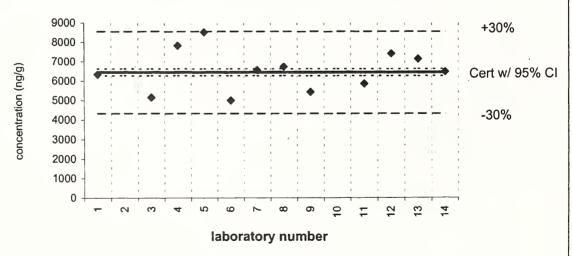
Assigned value = 500 ng/g s = 85 ng/g 95% CL = 54 ng/g (extract)

Reported Results: 13 Quantitative Results: 13



#### fluoranthene

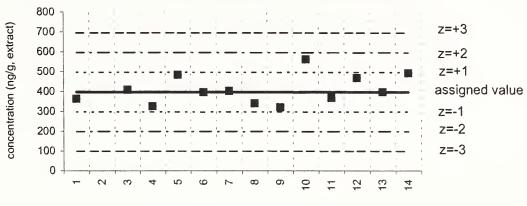






Assigned value = 398 ng/g s = 52 ng/g 95% CL = 33 ng/g (extract)

Reported Results: 13 Quantitative Results: 13



laboratory number

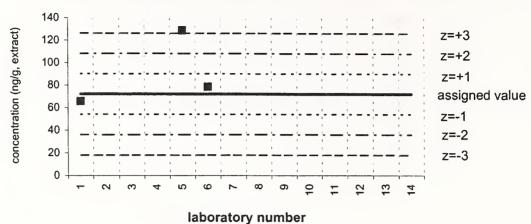
# pyrene **SRM** 1649a Certified Value = 5290 ± 250 ng/g Reported Results: 12 Quantitative Results: 12 8000 +30% 7000 6000 concentration (ng/g) Cert w/ 95% CI 5000 4000 -30% 3000 2000 1000 0 13 laboratory number

# benzo[ghi]fluoranthene

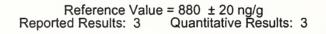
# Air Particulate Extract I (QA01EXT01)

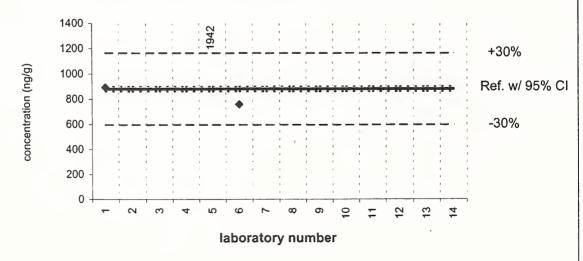
Assigned value = 72.2 ng/g s = 9.2 ng/g 95% CL = not calc. ng/g (extract)

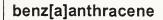
Reported Results: 3 Quantitative Results: 3



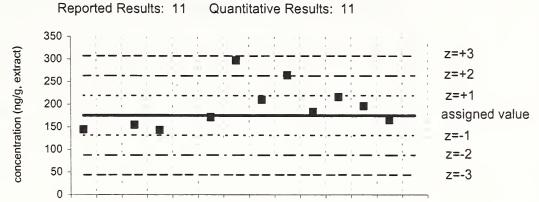
# benzo[ghi]fluoranthene







Assigned value = 176 ng/g  $\,$  s = 29 ng/g  $\,$  95% CL = 24 ng/g (extract)

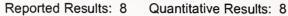


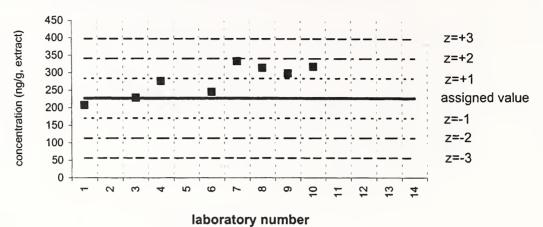
laboratory number

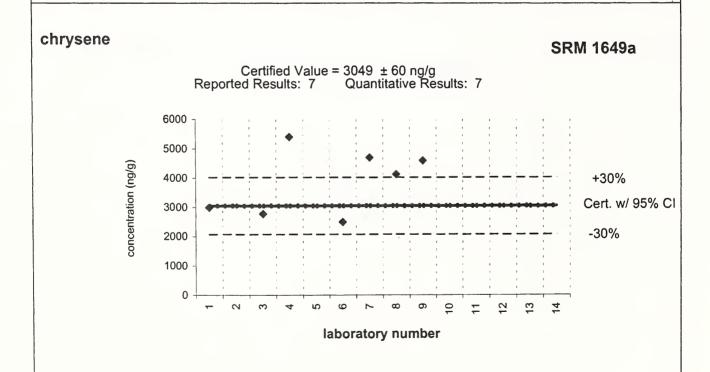
#### benz[a]anthracene SRM 1649a Certified Value = 2210 ± 73 ng/g Reported Results: 10 Quantitative Results: 10 5000 4500 4000 concentration (ng/g) 3500 +30% 3000 2500 Cert. w/ 95% CI 2000 1500 -30% 1000 500 0 12 2 13 4 laboratory number



Assigned value = 227 ng/g s = 27 ng/g 95% CL = not calc. ng/g (extract)



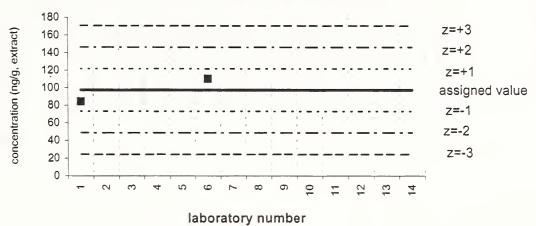


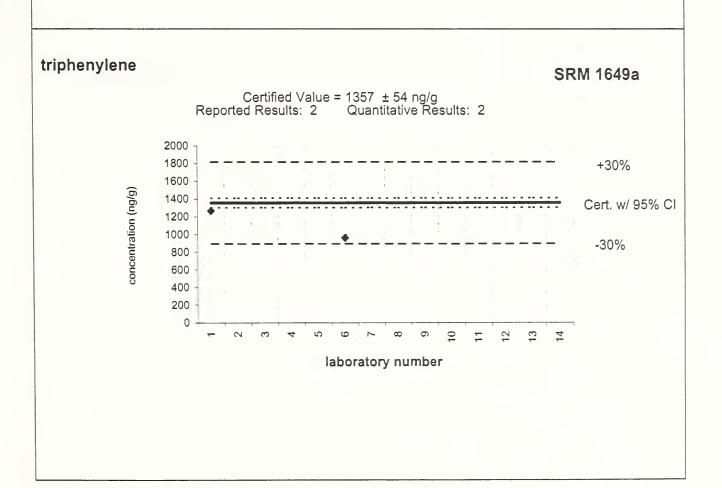




Assigned value = 97.7 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)

Reported Results: 2 Quantitative Results: 2

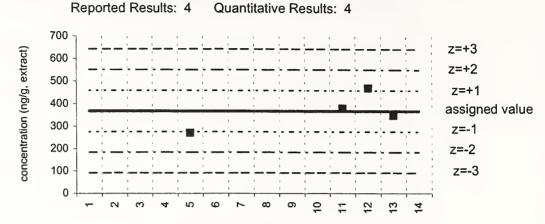




# chrysene+triphenylene

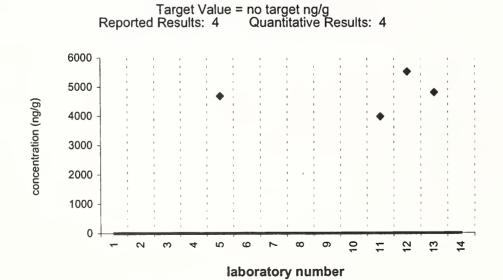
#### **Air Particulate Extract I (QA01EXT01)**

Assigned value = 367 ng/g s = 82 ng/g 95% CL = 131 ng/g (extract)



laboratory number

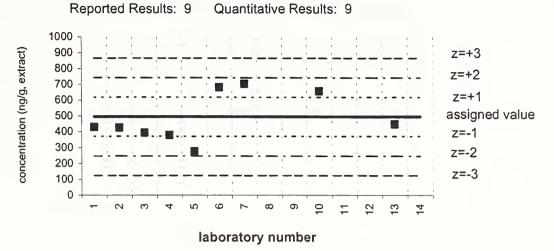
# chrysene+triphenylene



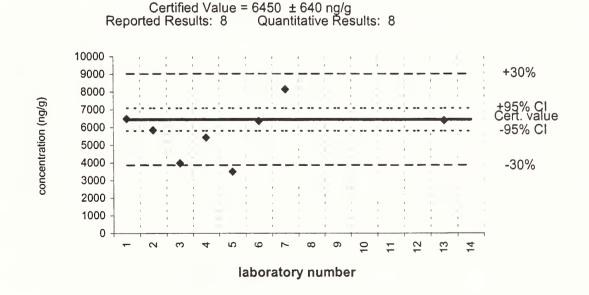
#### benzo[b]fluoranthene

# Air Particulate Extract I (QA01EXT01)

Assigned value = 496 ng/g s = 138 ng/g 95% CL = 127 ng/g (extract)



# benzo[b]fluoranthene

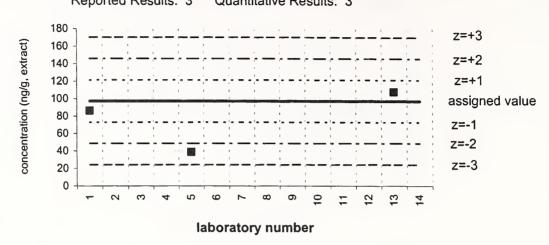


#### benzo[j]fluoranthene

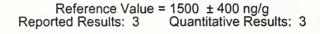
# Air Particulate Extract I (QA01EXT01)

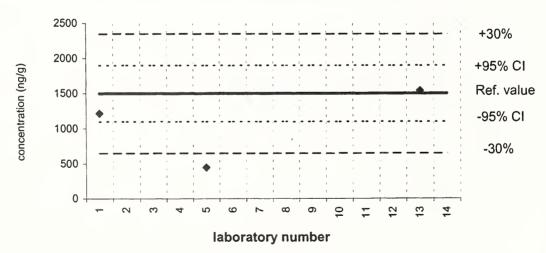
Assigned value = 97.4 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)

Reported Results: 3 Quantitative Results: 3



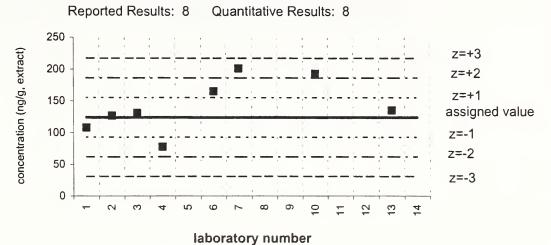
# benzo[j]fluoranthene







Assigned value = 124 ng/g s = 29 ng/g 95% CL = 31 ng/g (extract)

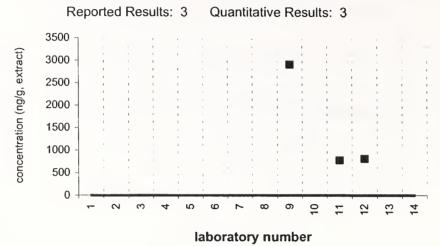


# benzo[k]fluoranthene Certified Value = 1913 ± 31 ng/g Reported Results: 7 430% Cert.w/ 95% CI 1500 1500 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000

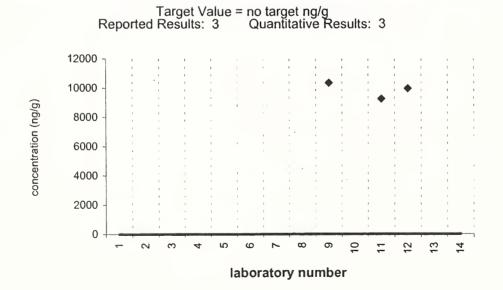
#### benzo[b+j+k]fluoranthene

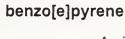
## Air Particulate Extract I (QA01EXT01)

Assigned value = No assigned value ng/g (extract)

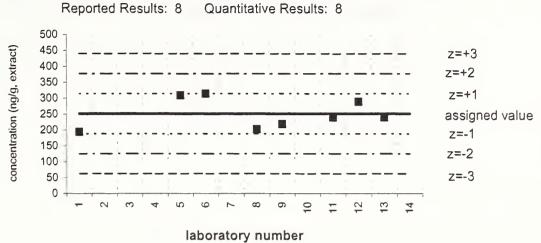


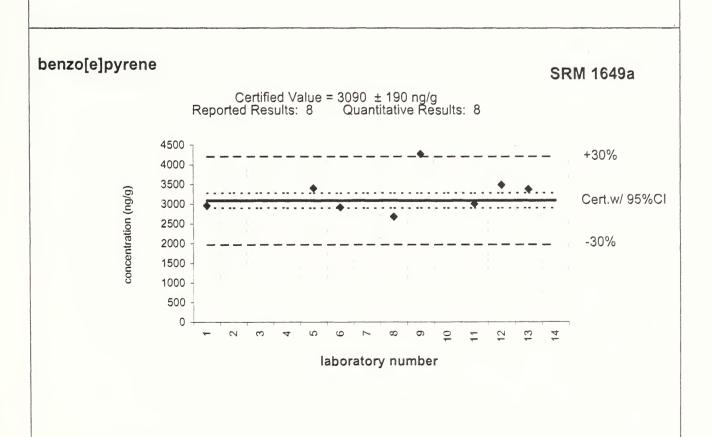
# benzo[b+j+k]fluoranthene

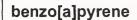




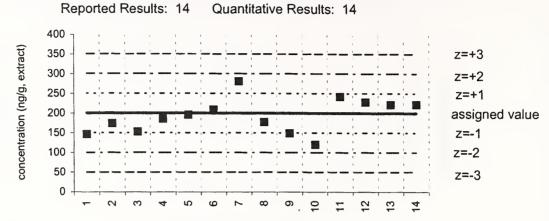
Assigned value = 252 ng/g s = 47 ng/g 95% CL = 40 ng/g (extract)



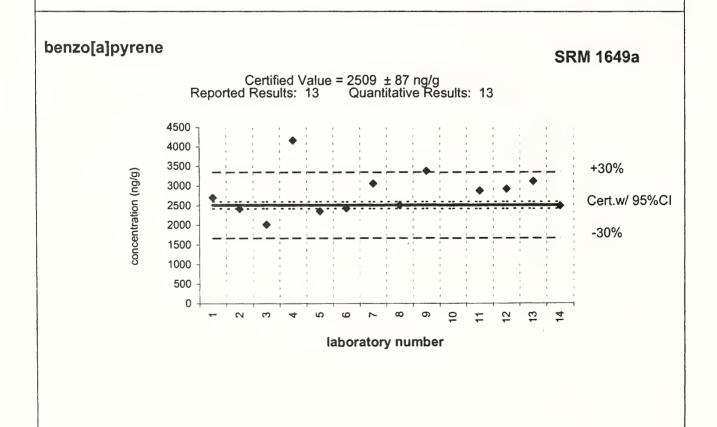


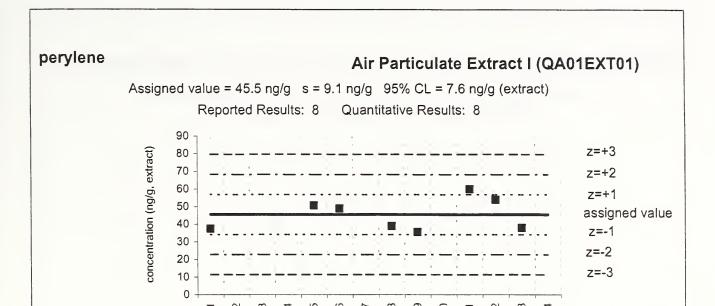


Assigned value = 201 ng/g s = 42 ng/g 95% CL = 26 ng/g (extract)

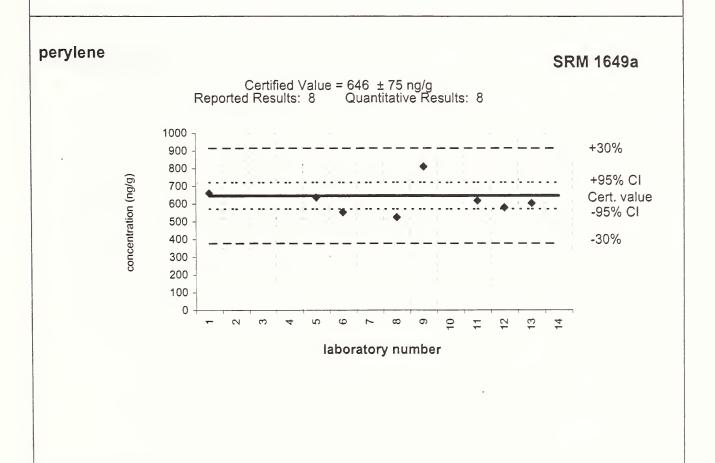


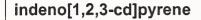
laboratory number



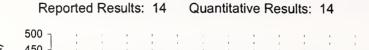


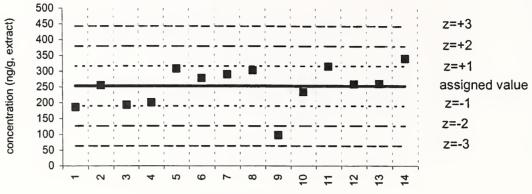
laboratory number





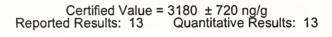
Assigned value = 253 ng/g s = 67 ng/g 95% CL = 41 ng/g (extract)

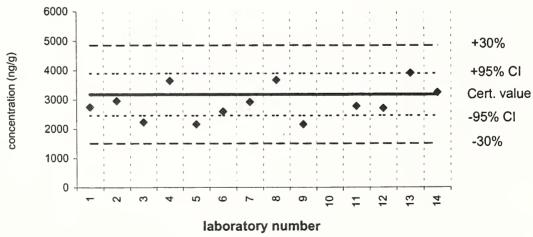




laboratory number

# indeno[1,2,3-cd]pyrene

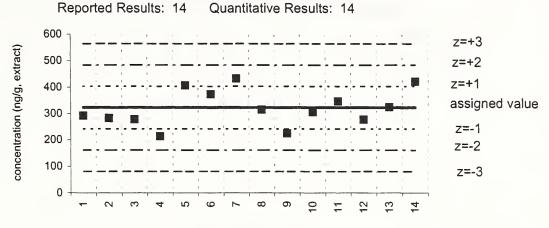




# benzo[ghi]perylene

# Air Particulate Extract I (QA01EXT01)

Assigned value = 323 ng/g  $\,$  s = 71 ng/g  $\,$  95% CL = 43 ng/g (extract)



#### laboratory number

# benzo[ghi]perylene

#### SRM 1649a

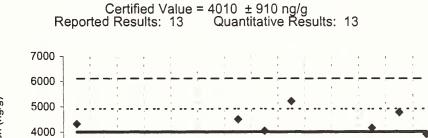
+30%

+95% CI

Cert. value

-95% CI

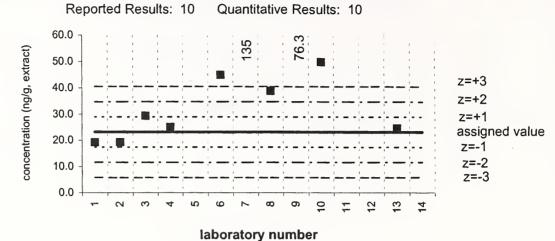
-30%

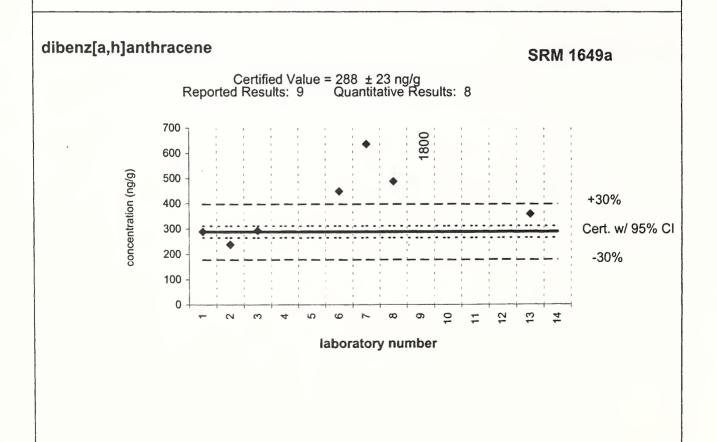


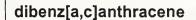
laboratory number



Assigned value = 23.2 ng/g s = 4.9 ng/g 95% CL = 7.8 ng/g (extract)

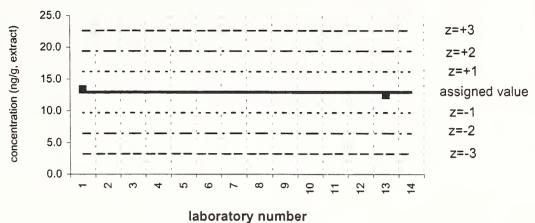




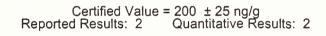


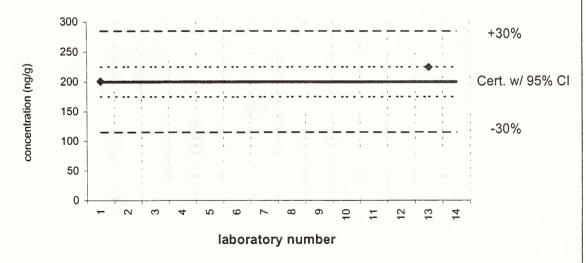
Assigned value = 12.9 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)





#### dibenz[a,c]anthracene

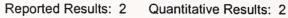


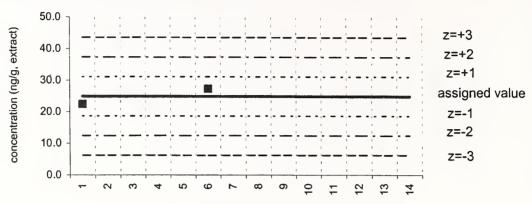


#### benzo[b]chrysene

## Air Particulate Extract I (QA01EXT01)

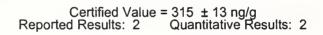
Assigned value = 24.9 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)

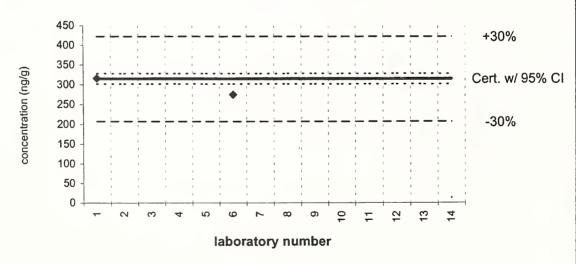




#### laboratory number

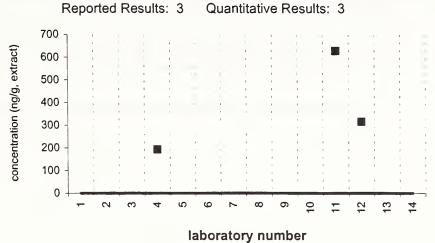
# benzo[b]chrysene



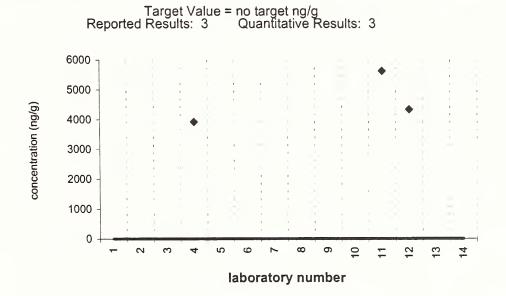




Assigned value = No assigned value ng/g (extract)



#### coronene



#### 9-nitroanthracene

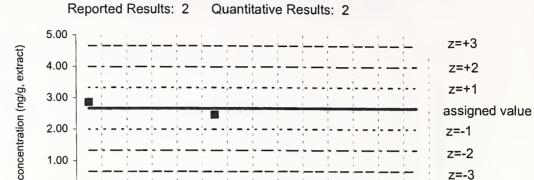
1.00

0.00

## Air Particulate Extract I (QA01EXT01)

7

Assigned value = 2.66 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)



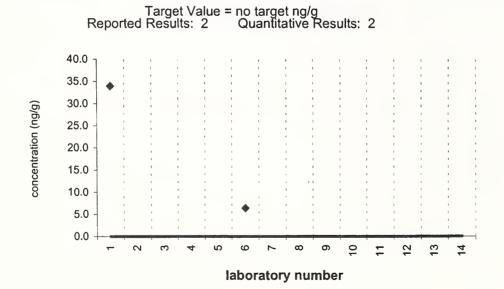
laboratory number

#### 9-nitroanthracene

#### **SRM** 1649a

z=-2

z=-3

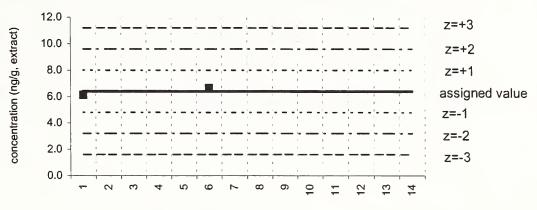


### 1-nitropyrene

# Air Particulate Extract I (QA01EXT01)

Assigned value = 6.41 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)

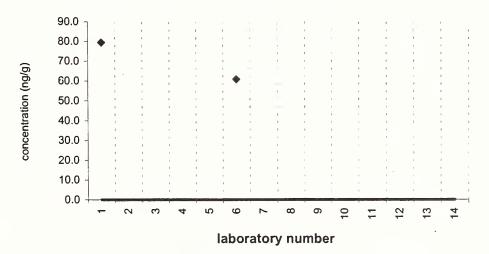




laboratory number

### 1-nitropyrene

Target Value = no target ng/g
Reported Results: 2 Quantitative Results: 2



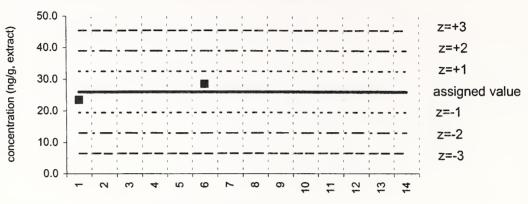
D-31

#### 2-nitrofluoranthene

# Air Particulate Extract I (QA01EXT01)

Assigned value = 26.0 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)

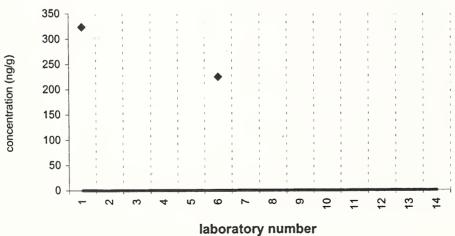




laboratory number

#### 2-nitrofluoranthene

Target Value = no target ng/g
Reported Results: 2 Quantitative Results: 2

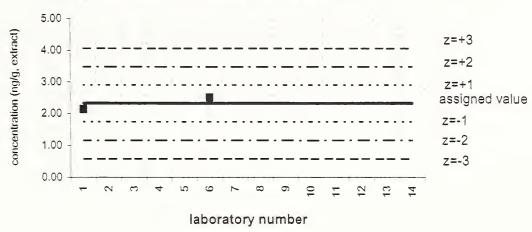


### 7-nitrobenz[a]anthracene

# Air Particulate Extract I (QA01EXT01)

Assigned value = 2.32 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)

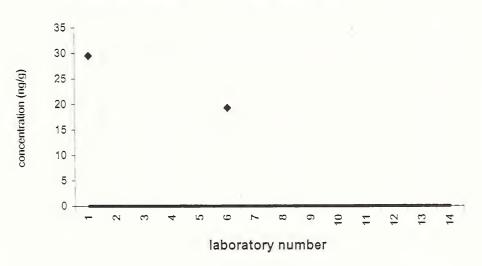
Reported Results: 2 Quantitative Results: 2



# 7-nitrobenz[a]anthracene

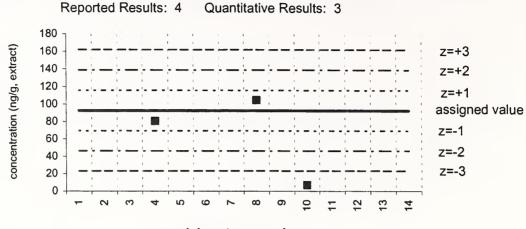
#### SRM 1649a

Target Value = no target ng/g
Reported Results: 2 Quantitative Results: 2



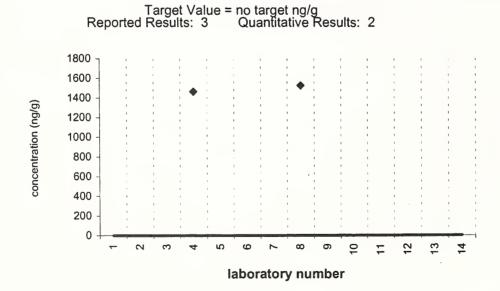


Assigned value = 92.6 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)



#### laboratory number

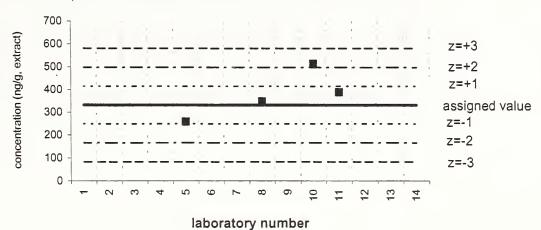




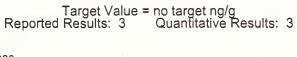


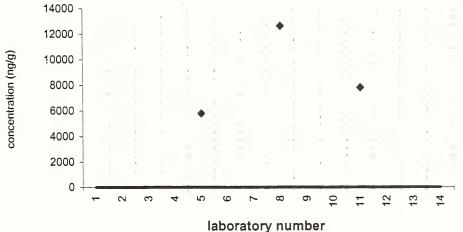
Assigned value = 332 ng/g s = 67 ng/g 95% CL = not calc. ng/g (extract)

Reported Results: 4 Quantitative Results: 4



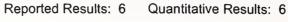


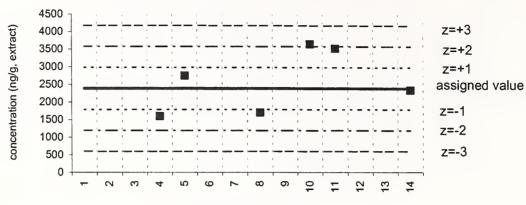






Assigned value = 2385 ng/g s = 791 ng/g 95% CL = 982 ng/g (extract)

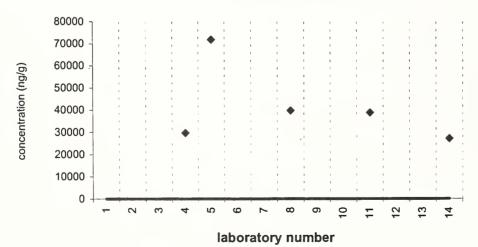




laboratory number

# n-C24

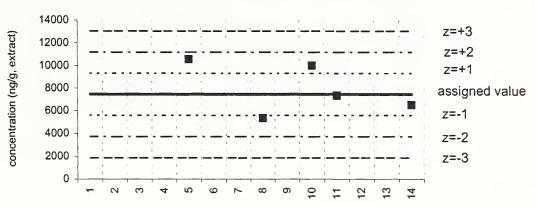
Target Value = no target ng/g
Reported Results: 5 Quantitative Results: 5





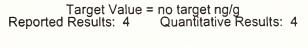
Assigned value = 7457 ng/g s = 2245 ng/g 95% CL = 3572 ng/g (extract)

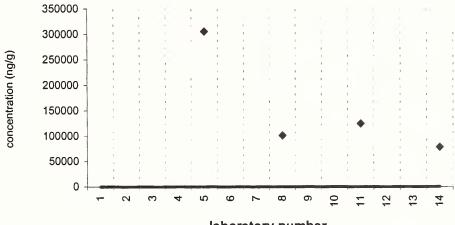
Reported Results: 5 Quantitative Results: 5



# laboratory number

#### n-C26

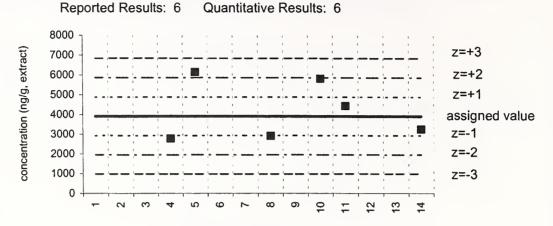




laboratory number

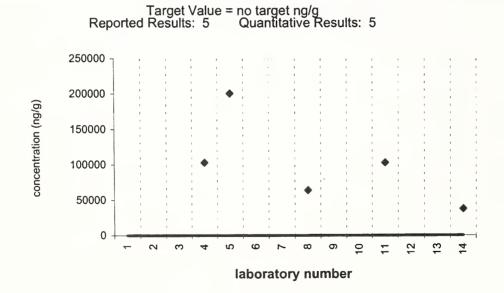


Assigned value = 3908 ng/g s = 1408 ng/g 95% CL = 1749 ng/g (extract)



laboratory number

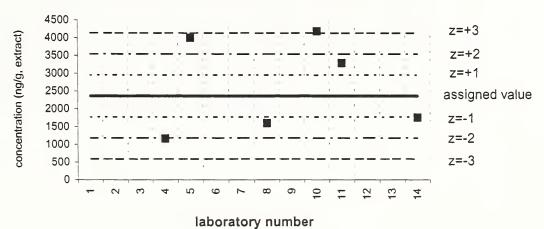




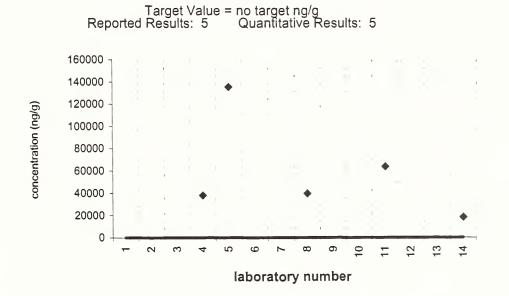


Assigned value = 2364 ng/g  $\,$  s = 1218 ng/g  $\,$  95% CL = 1512 ng/g (extract)

Reported Results: 6 Quantitative Results: 6

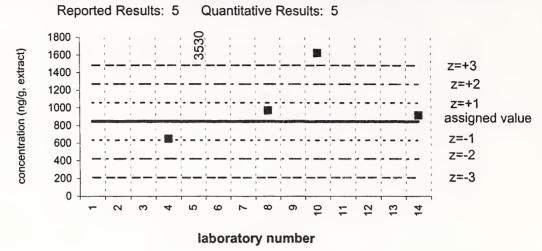




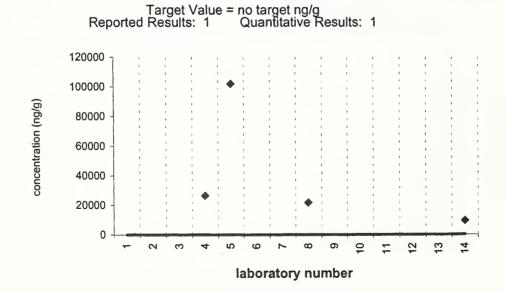




Assigned value = 848 ng/g s = 172 ng/g 95% CL = 428 ng/g (extract)

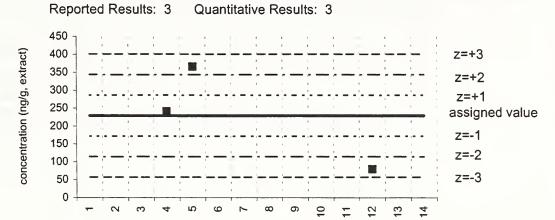






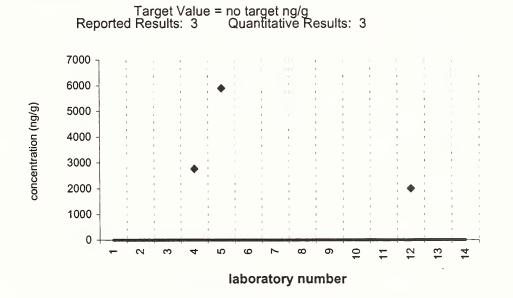


Assigned value = 229 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)



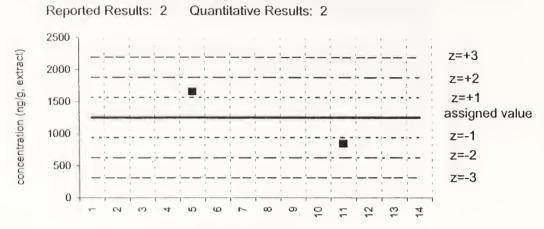
#### laboratory number

# 22, 29, 30-trisnorhopane



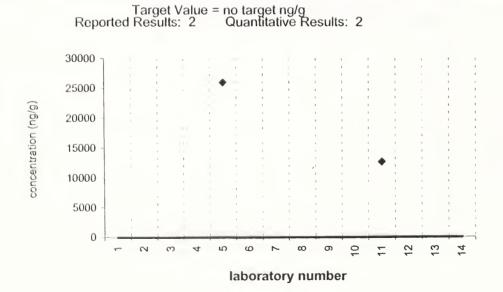


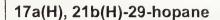
Assigned value = 1255 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)



laboratory number

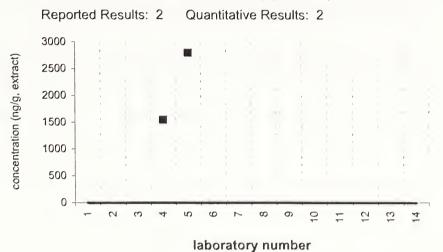
# 17a(H), 21b(H)-29-norhopane



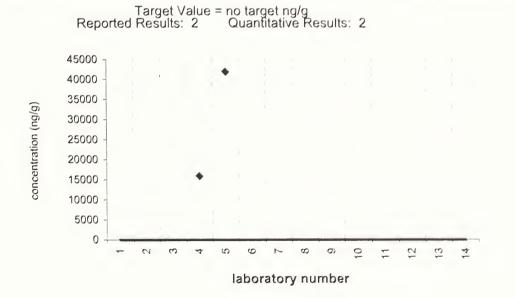


### Air Particulate Extract I (QA01EXT01)

Assigned value = No assigned value ng/g (extract)



### 17a(H), 21b(H)-29-hopane

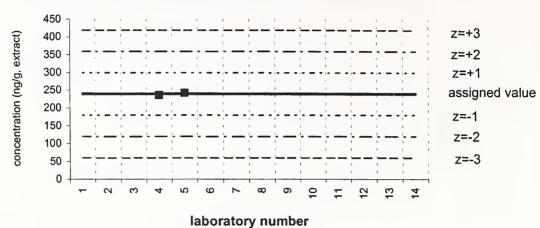


#### ABB-20R-C28-methylcholestane

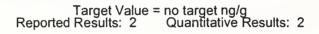
### Air Particulate Extract I (QA01EXT01)

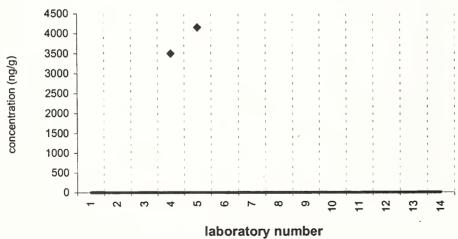
Assigned value = 239 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)

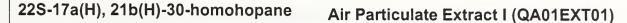
Reported Results: 2 Quantitative Results: 2



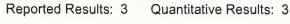
### ABB-20R-C28-methylcholestane

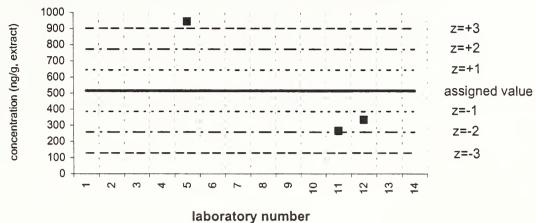






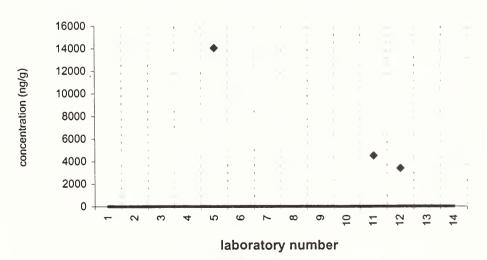
Assigned value = 516 ng/g s = 374 ng/g 95% CL = not calc. ng/g (extract)





### 22S-17a(H), 21b(H)-30-homohopane

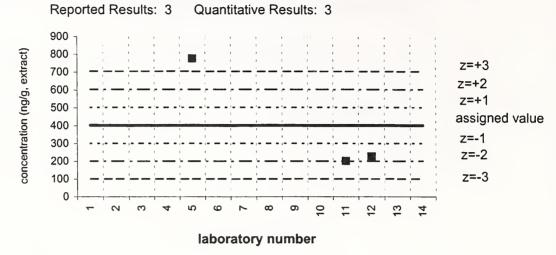
Target Value = no target ng/g
Reported Results: 3 Quantitative Results: 3

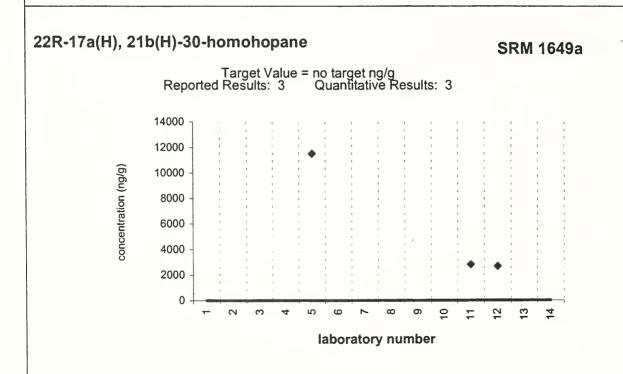


D-45



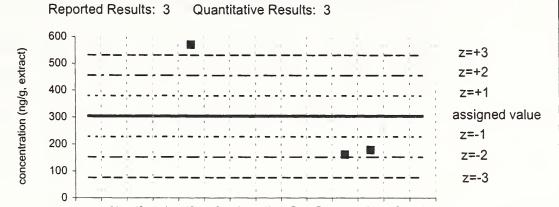
Assigned value = 403 ng/g s = 324 ng/g 95% CL = not calc. ng/g (extract)



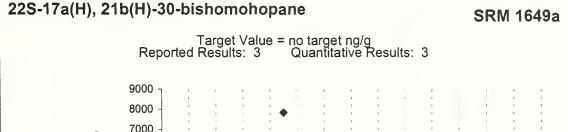


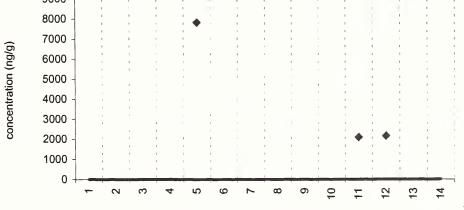
# 22S-17a(H), 21b(H)-30-bishomohopane Air Particulate Extract I (QA01EXT01)

Assigned value = 304 ng/g s = 232 ng/g 95% CL = not calc. ng/g (extract)



laboratory number



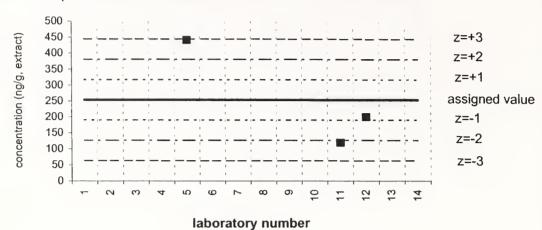


laboratory number



Assigned value = 254 ng/g s = 167 ng/g 95% CL = not calc. ng/g (extract)

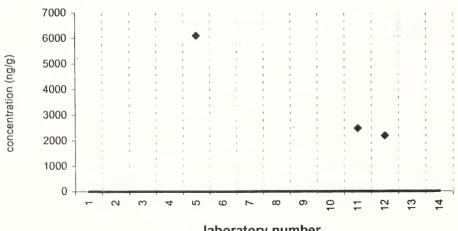
Reported Results: 3 Quantitative Results: 3



### 22R-17a(H), 21b(H)-30-bishomohopane

#### **SRM 1649a**

Target Value = no target ng/g
Reported Results: 3 Quantitative Results: 3

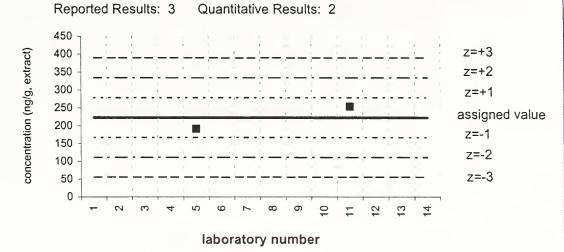


laboratory number

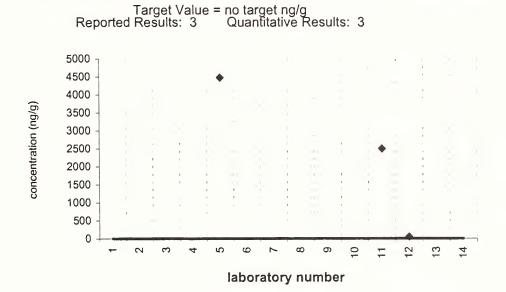
#### benzanthrone

### Air Particulate Extract I (QA01EXT01)

Assigned value = 223 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)



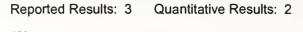
#### benzanthrone

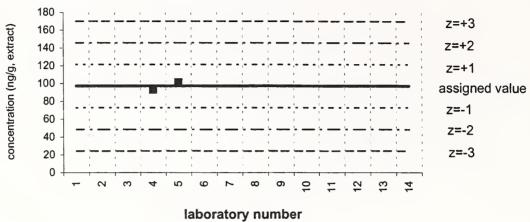


#### 9-fluorenone

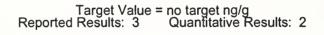
### Air Particulate Extract I (QA01EXT01)

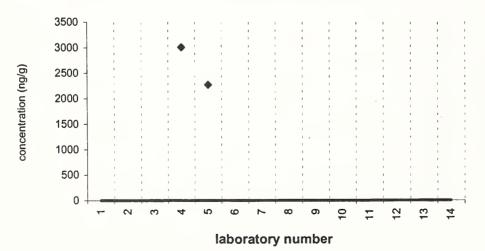
Assigned value = 97 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)





#### 9-fluorenone

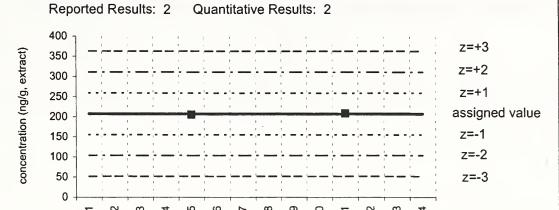




### benz[a]anthracene-7, 12-dione

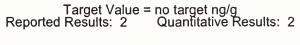
### Air Particulate Extract I (QA01EXT01)

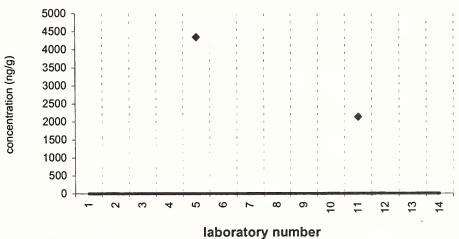
Assigned value = 208 ng/g s = not calc. ng/g 95% CL = not calc. ng/g (extract)



laboratory number

# benz[a]anthracene-7, 12-dione





### Appendix E

# Charts of Air Particulate I (QA01APT01) and SRM 1649a Results by Analyte

See Tables 2 and 3 for results reported as < number, detection limit, etc.

Charts for analytes with only one reported numerical result are not included in this appendix.

#### For Air Particulate I plots:

Solid line: exercise assigned value

Dotted line: z = ± 1, i. e., 25 % from assigned value

Dotted/dashed line:  $z = \pm 2$ , i. e., 50 % from assigned value

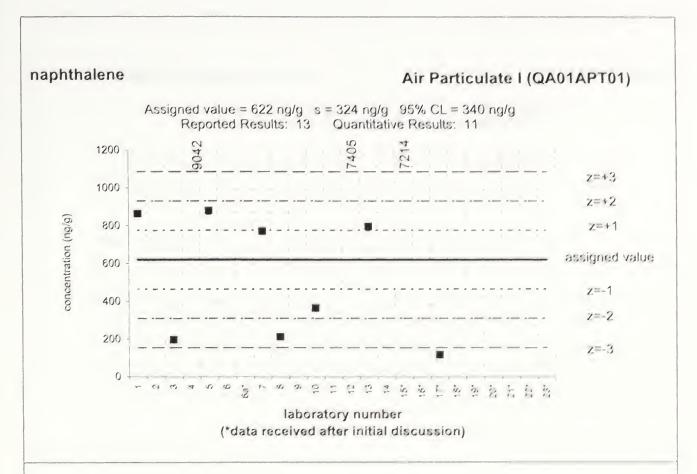
Dashed line:  $z = \pm 3$ , i. e., 75 % from assigned value

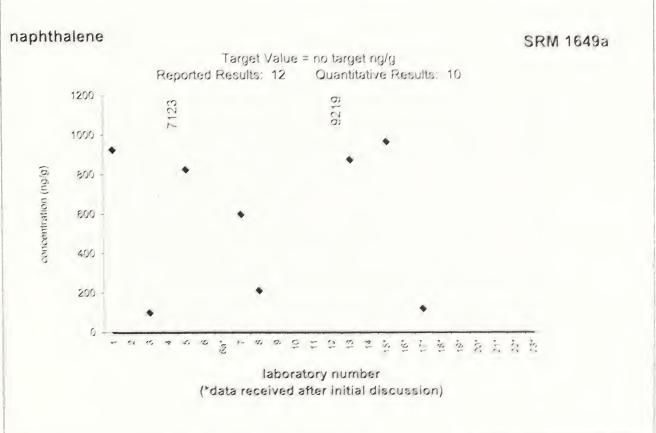
#### For SRM 1649a plots:

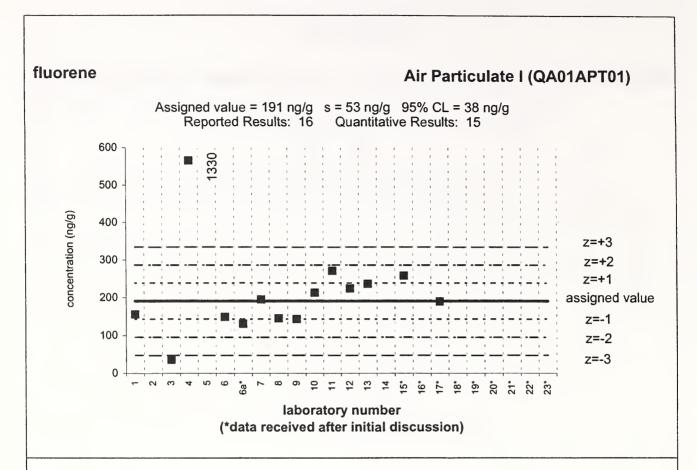
Solid line: material certified concentration or target value (see caption of each plot)

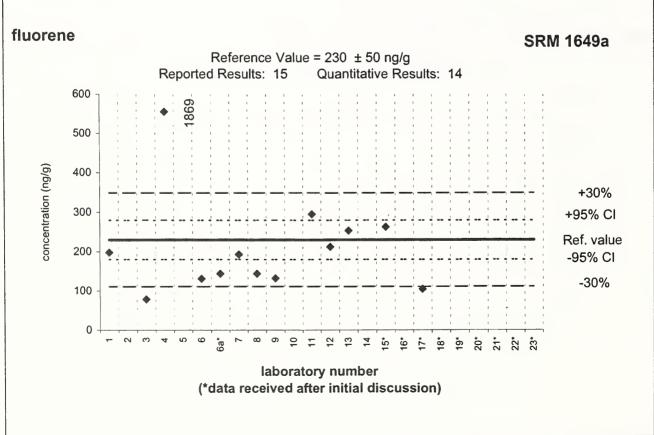
Dotted line: 95 % confidence interval (CI)

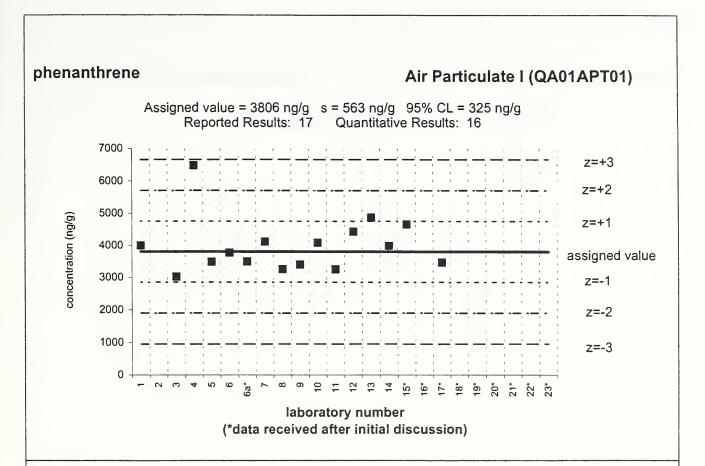
Dashed line: 30 % from 95 % confidence interval (CI)

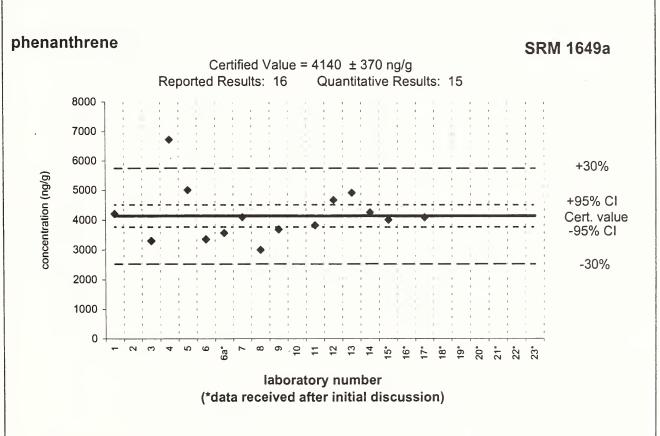


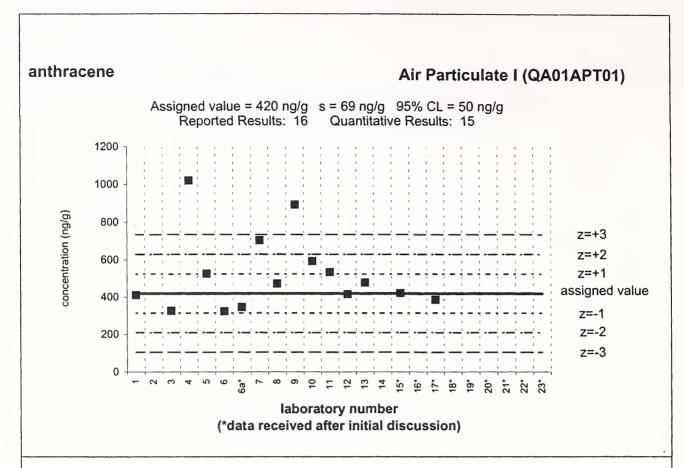


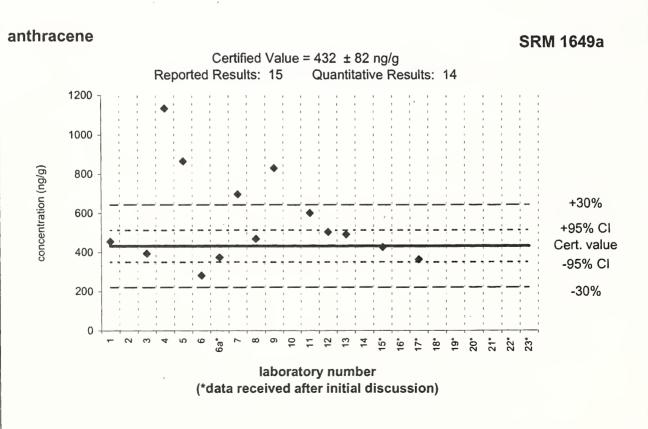


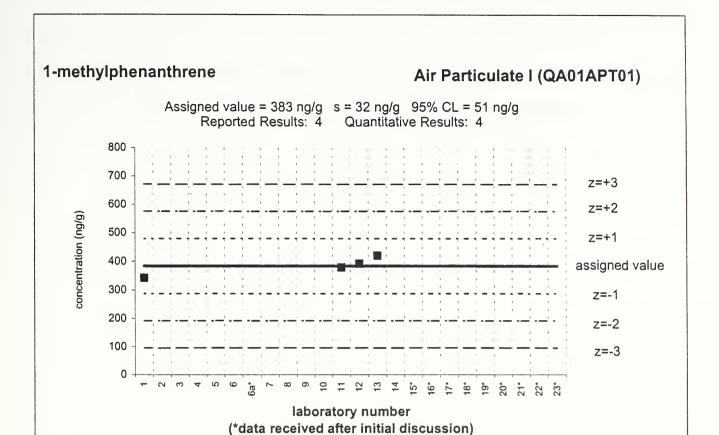


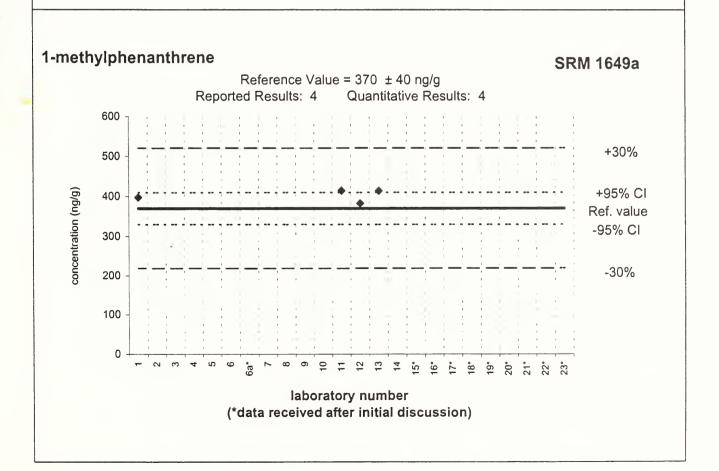


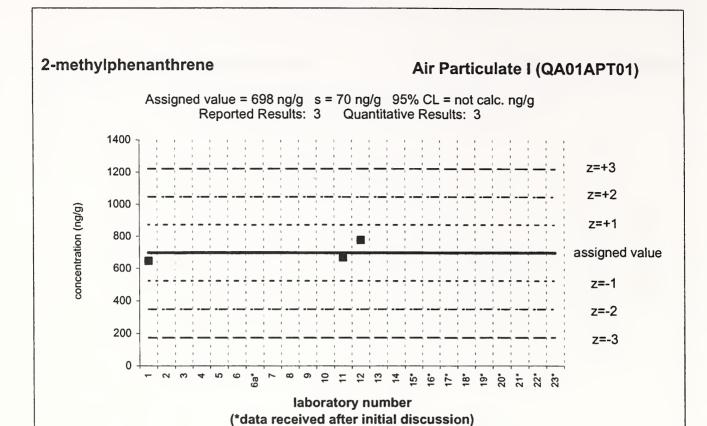


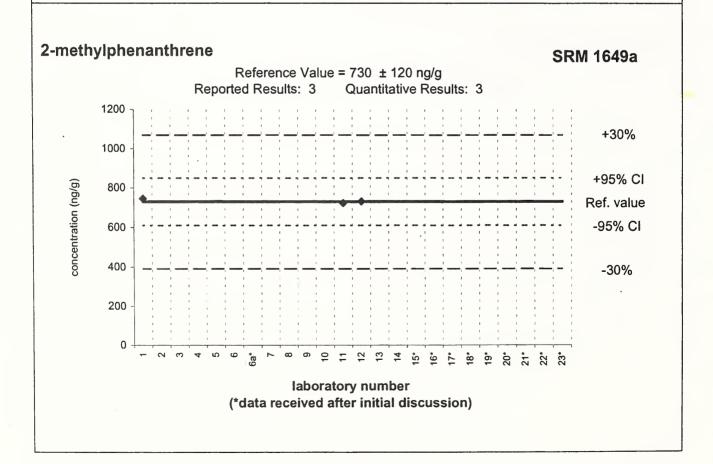


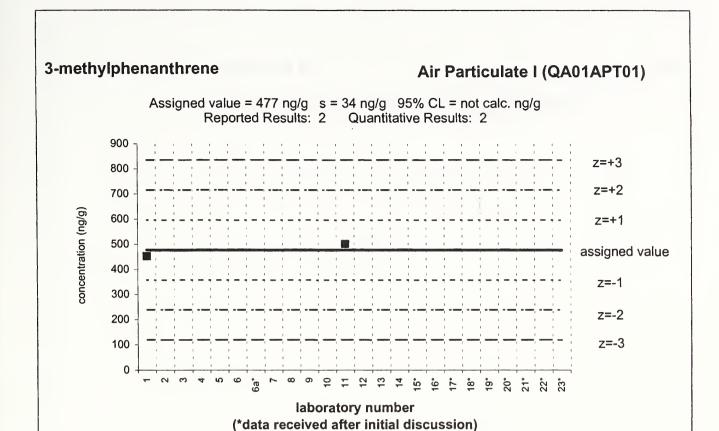


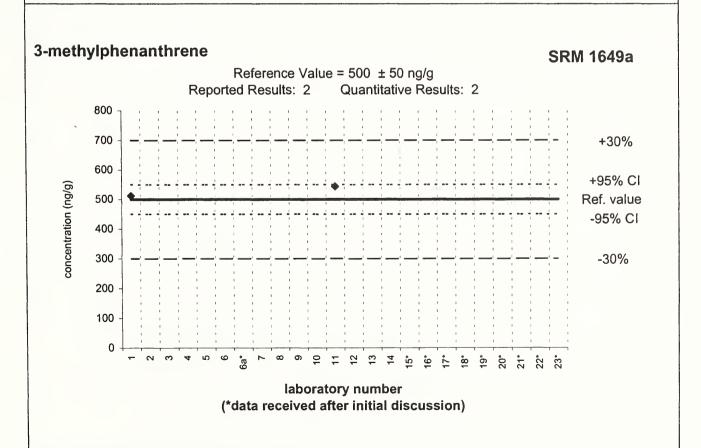


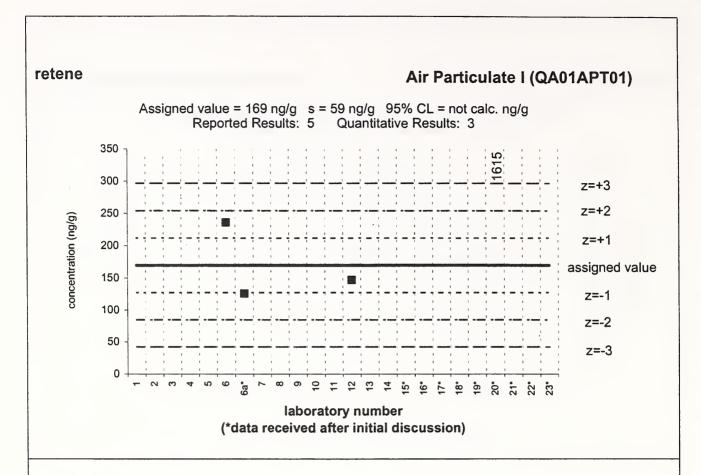


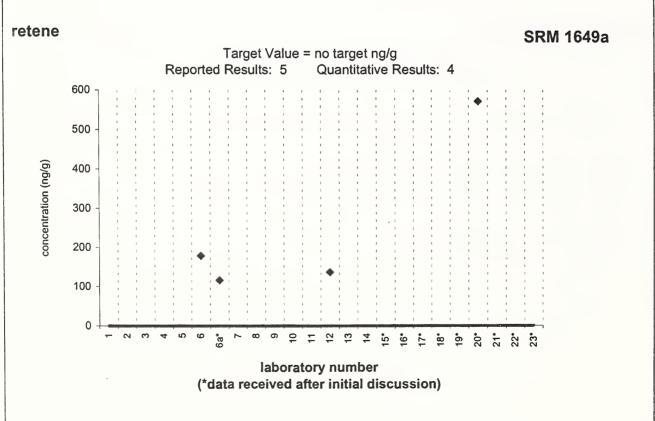


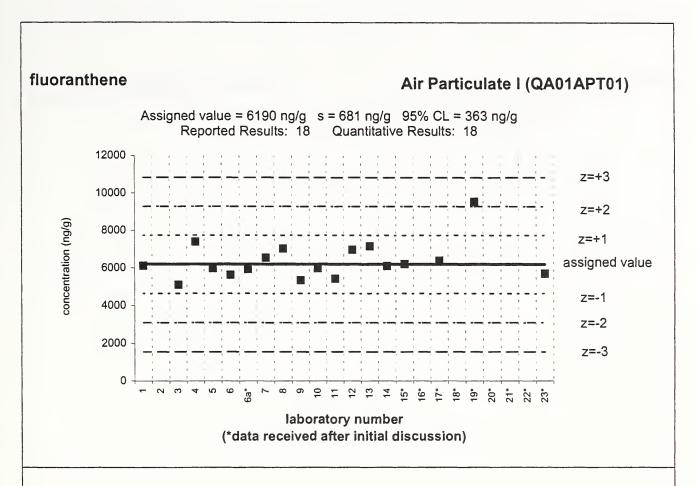


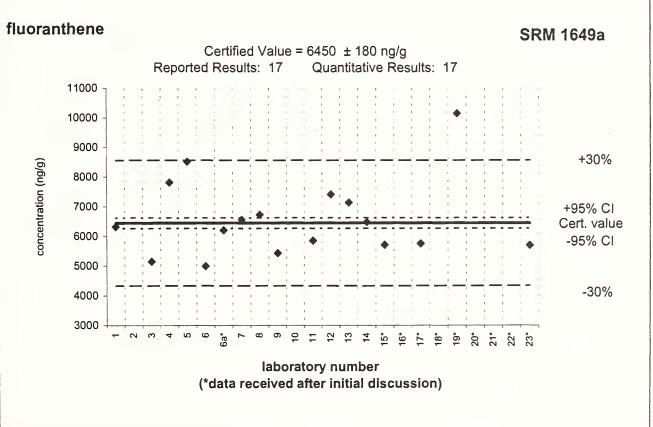


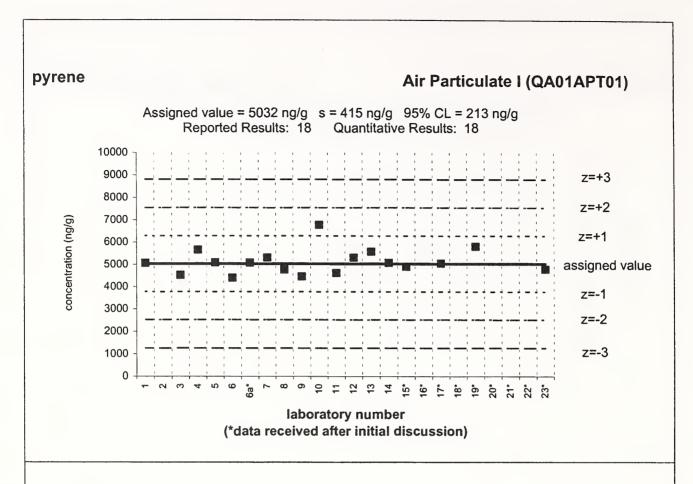


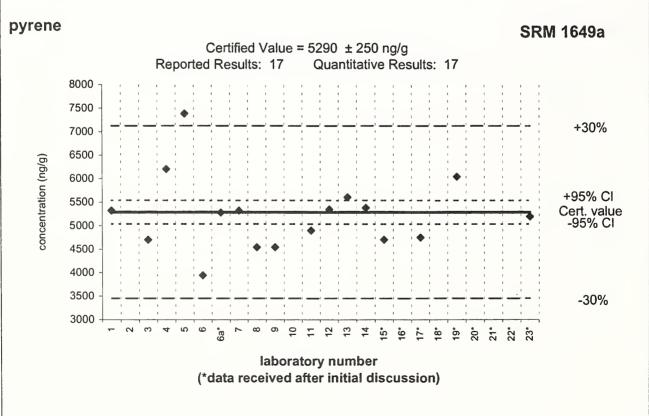


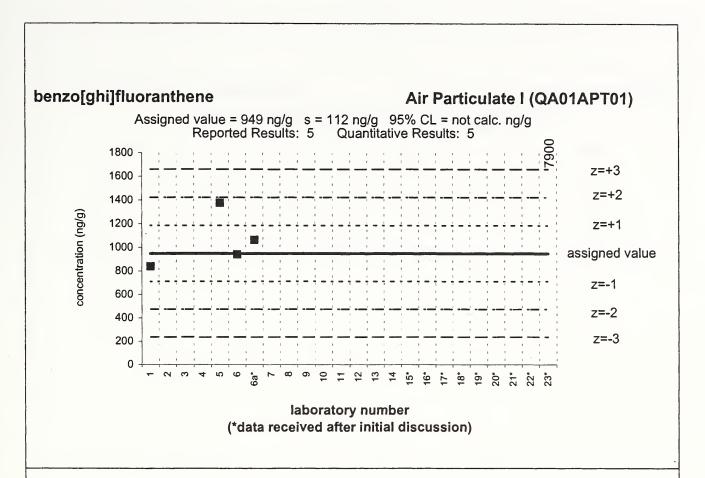


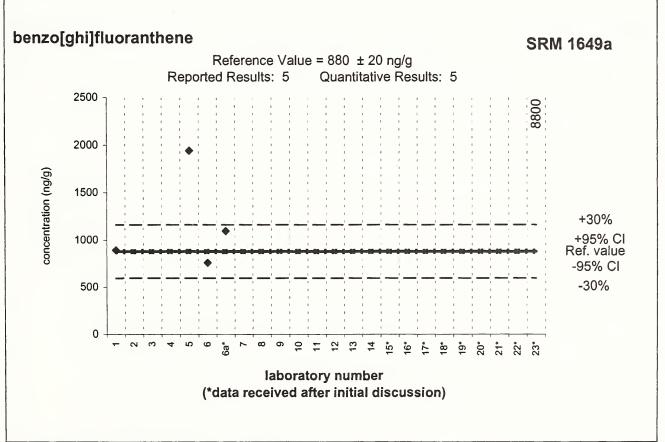


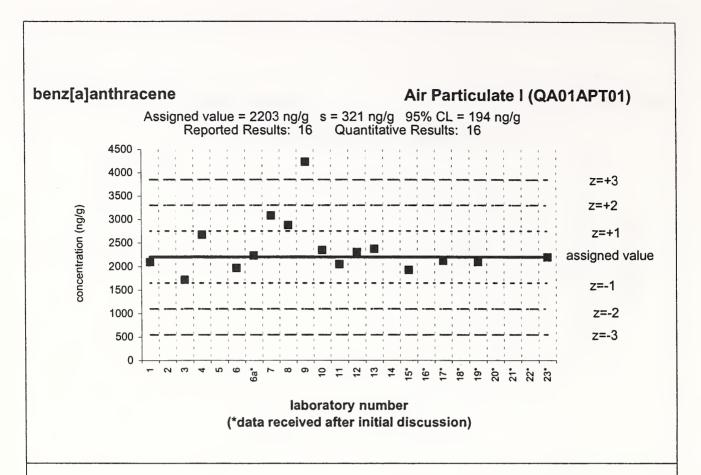


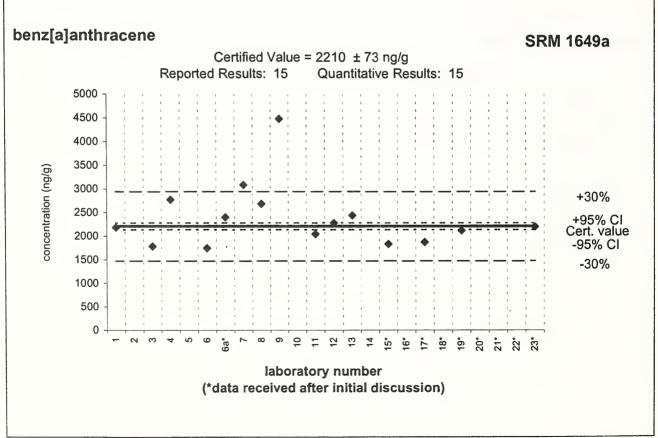


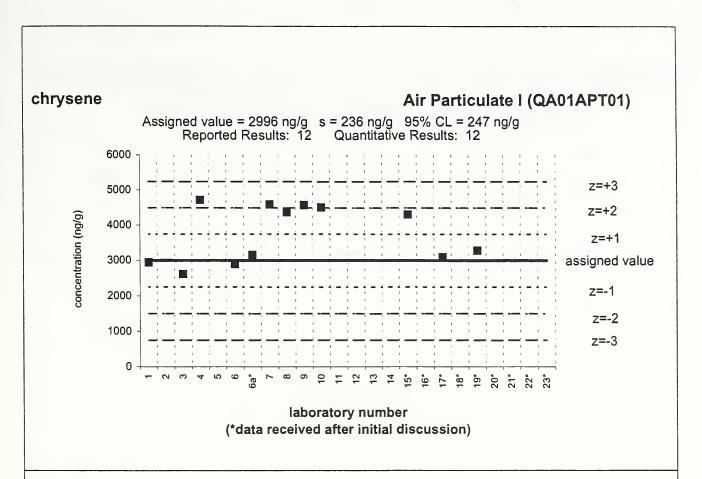


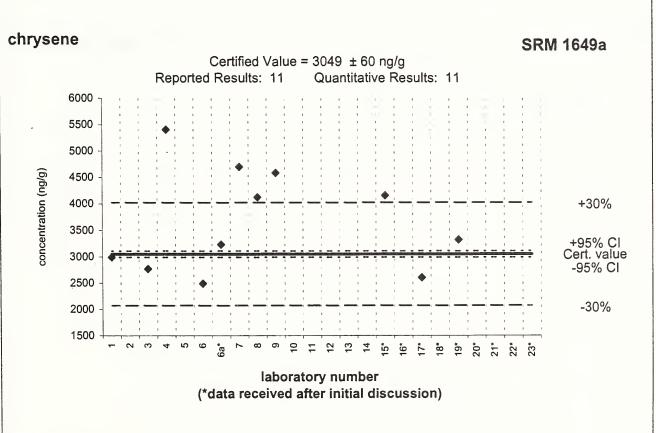


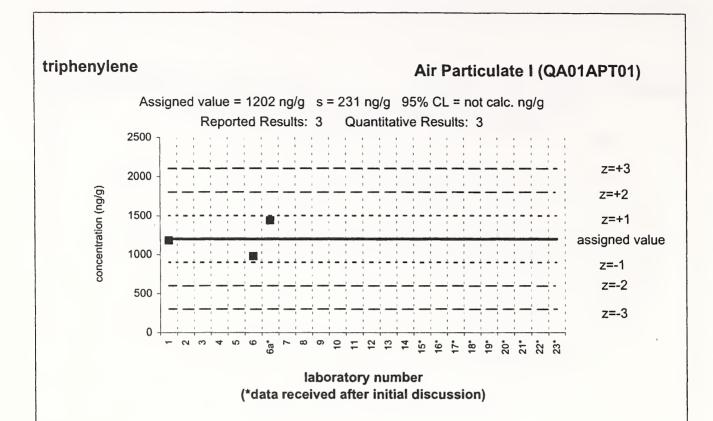


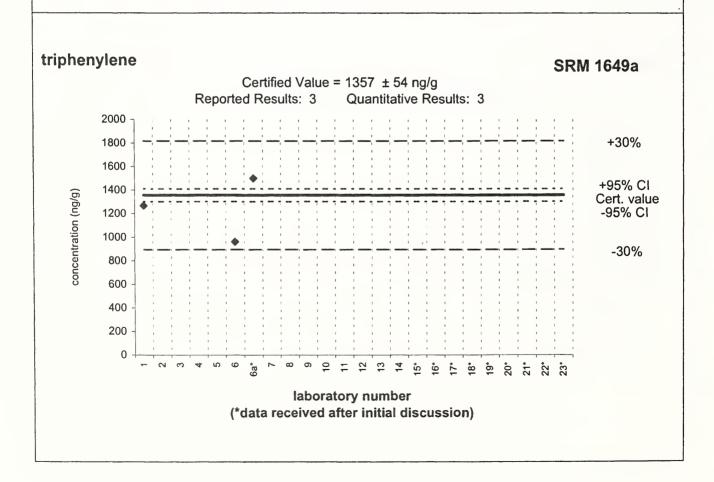


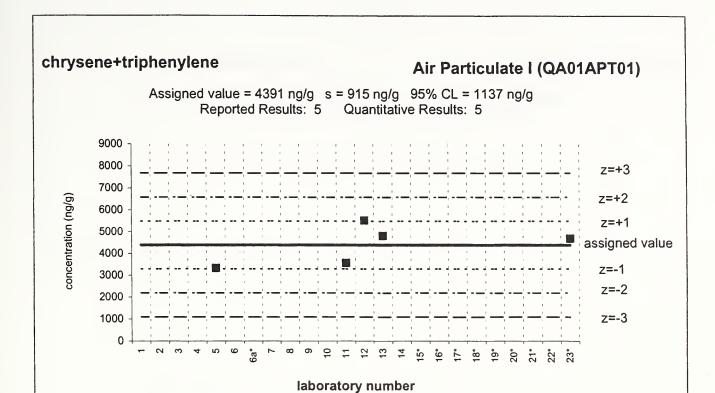




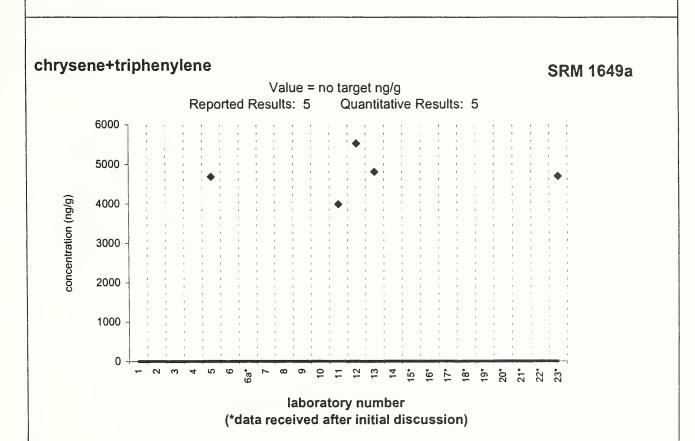


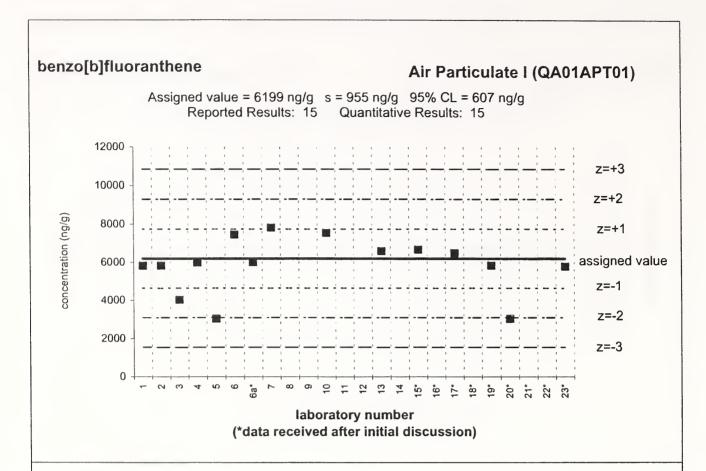


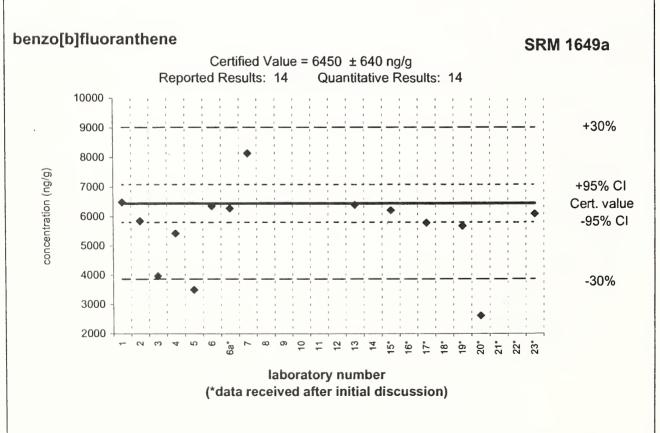


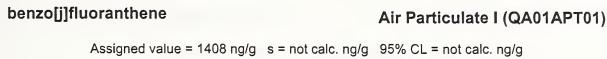


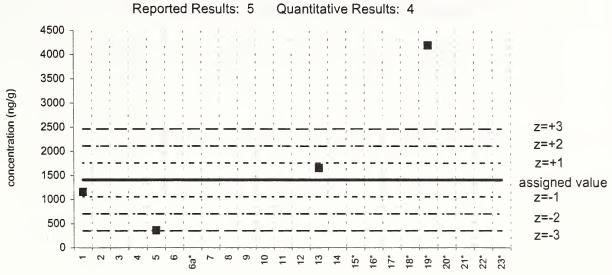
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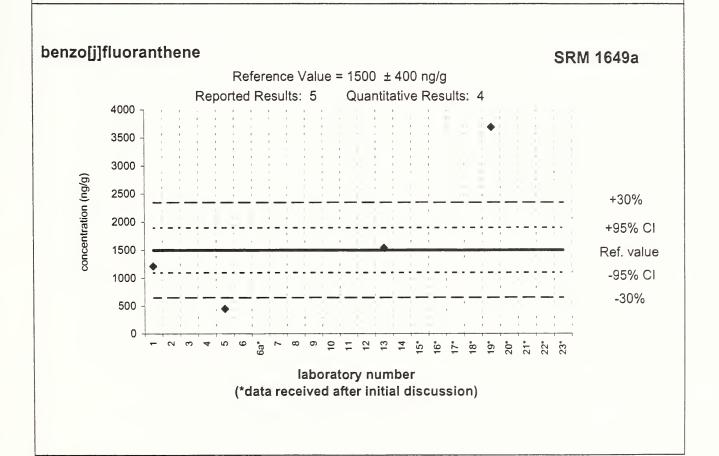


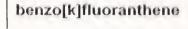




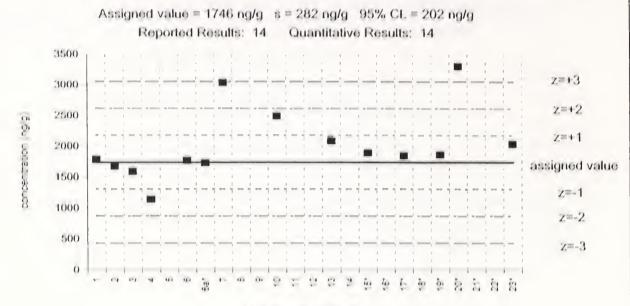


laboratory number (\*data received after initial discussion)

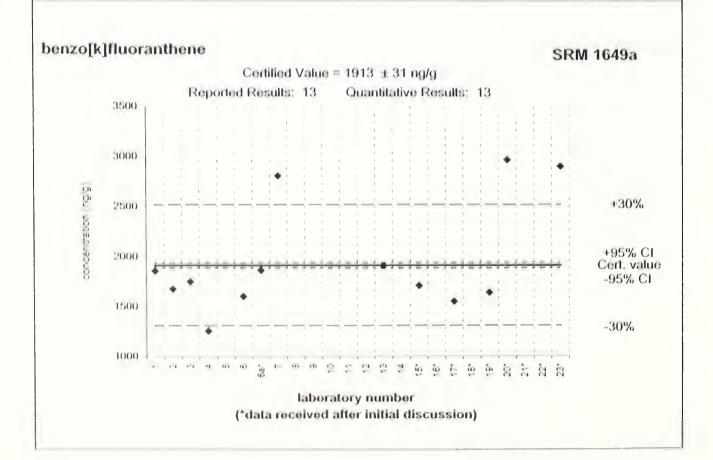


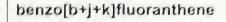


### Air Particulate I (QA01APT01)



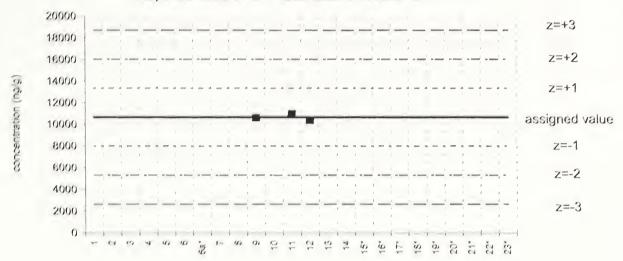
laboratory number (\*data received after initial discussion)





### Air Particulate I (QA01APT01)

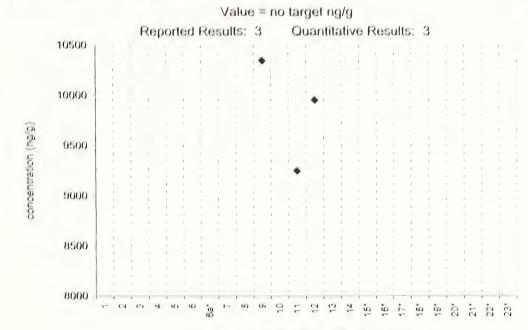
Assigned value = 10720 ng/g s = 305 ng/g 95% CL = not calc. ng/g
Reported Results: 3 Quantitative Results: 3



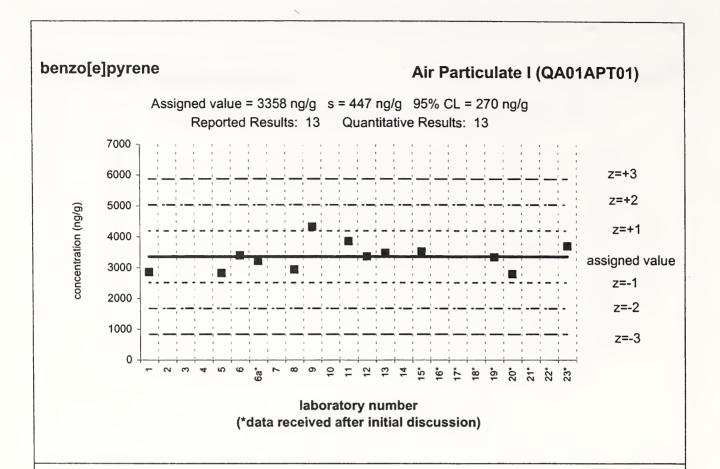
laboratory number (\*data received after initial discussion)

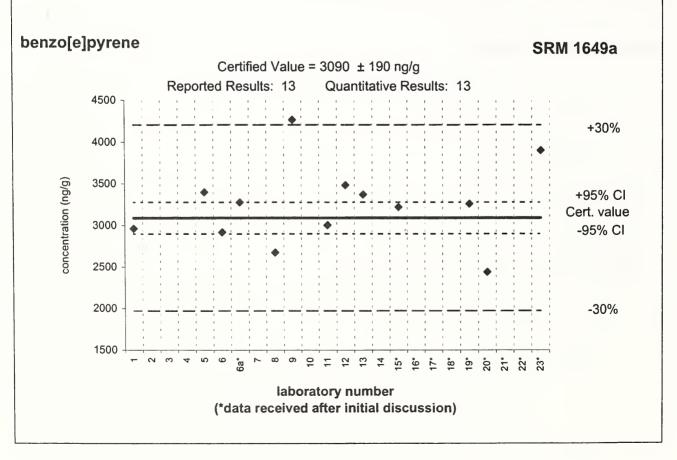
### benzo[b+j+k]fluoranthene

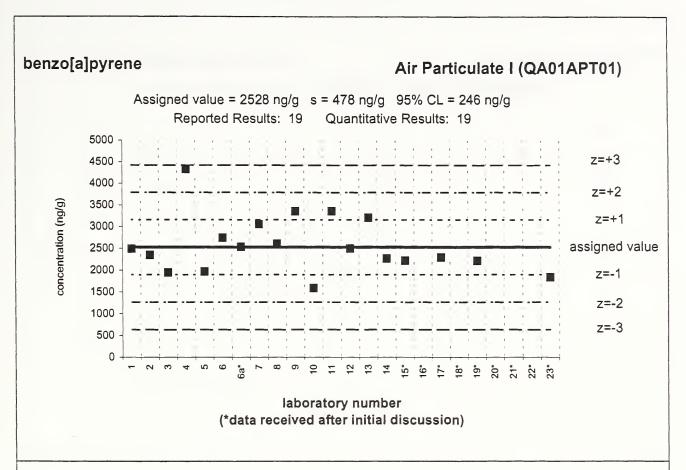
SRM 1649a

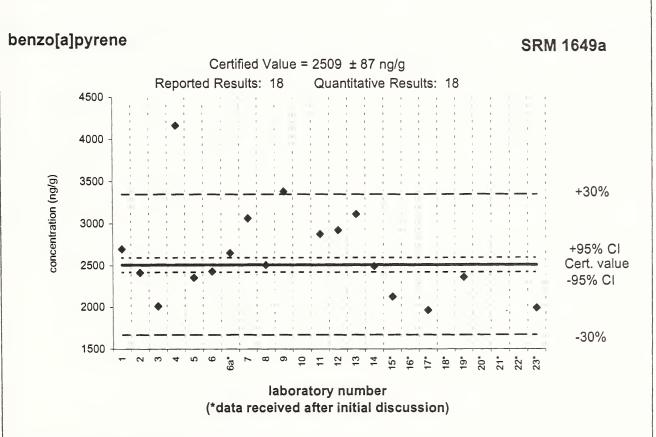


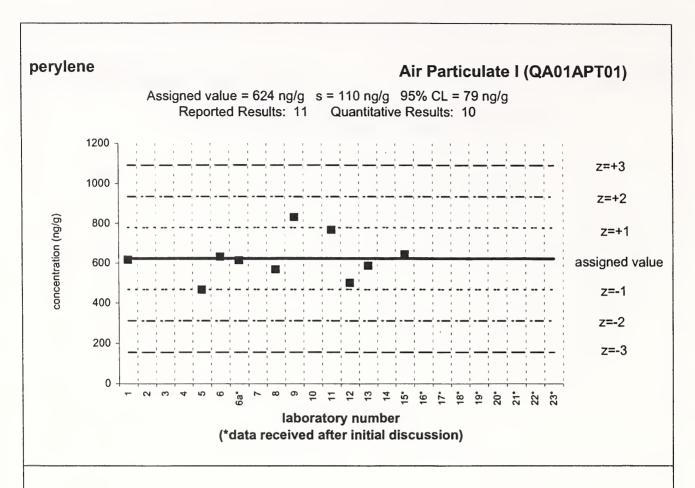
laboratory number (\*data received after initial discussion)

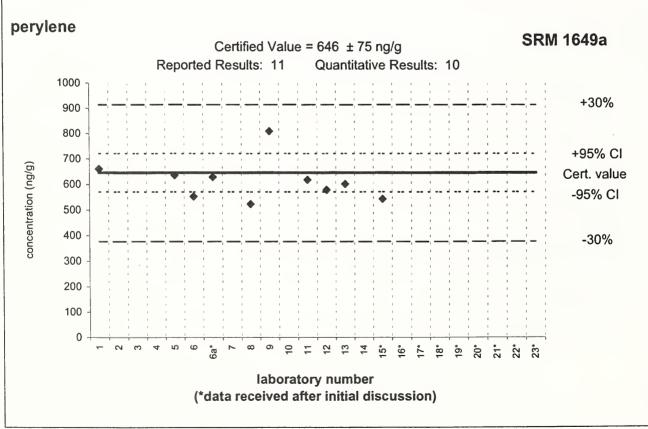


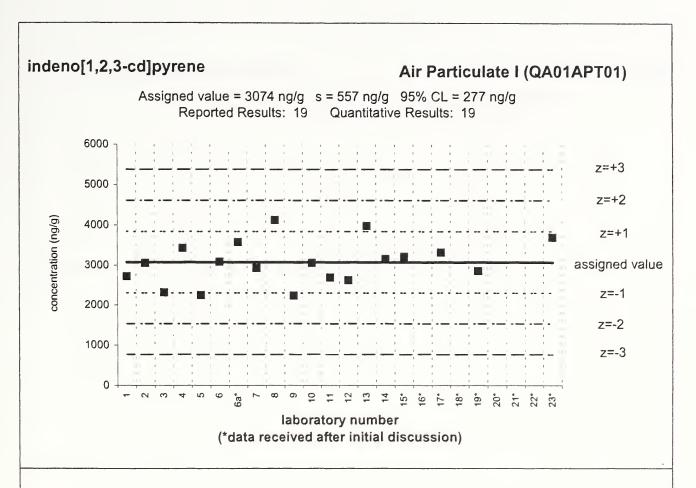


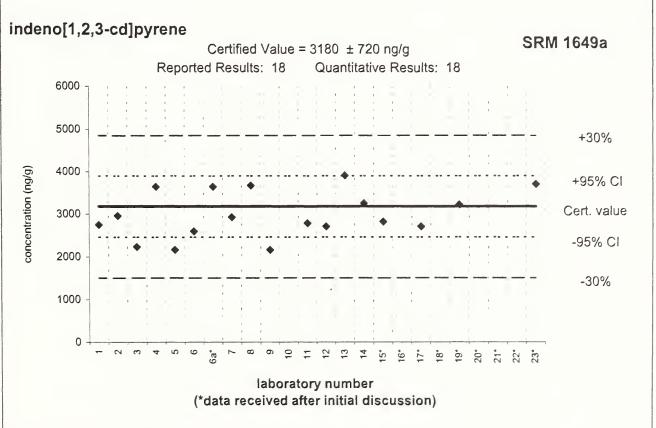


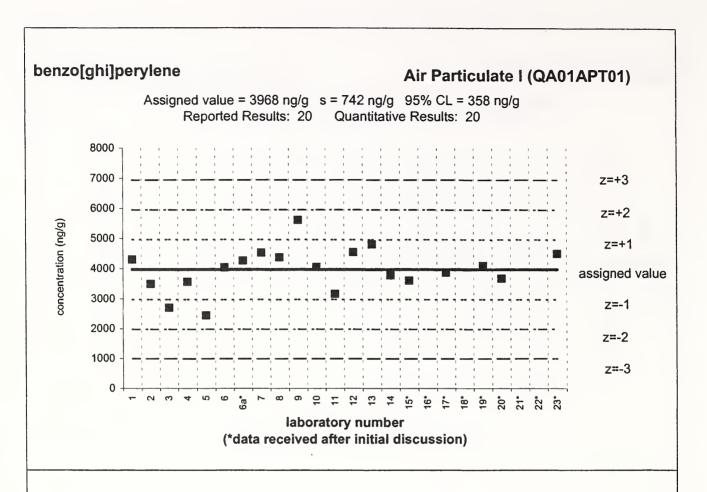


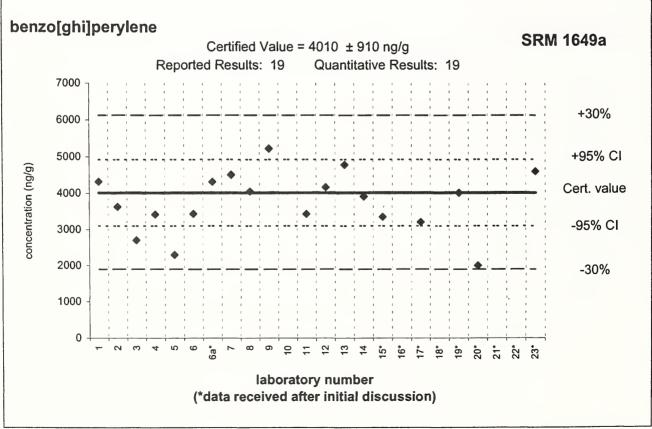


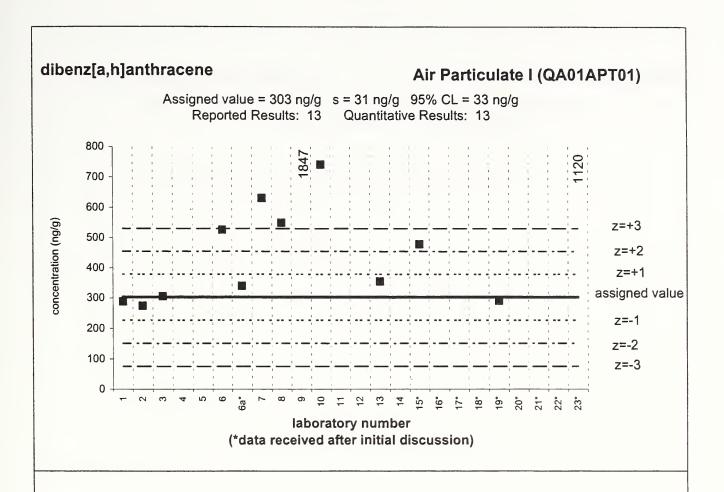


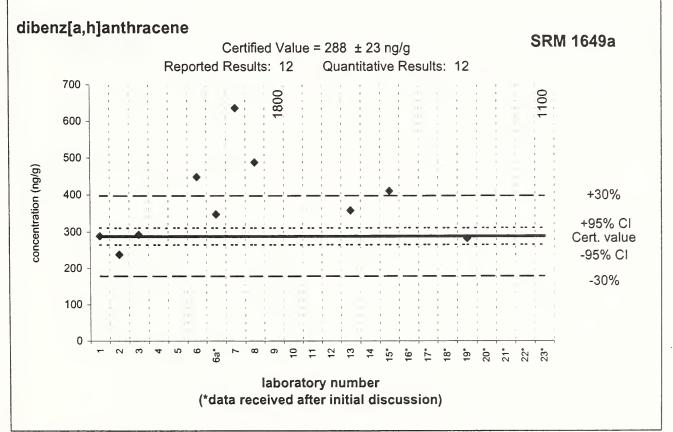


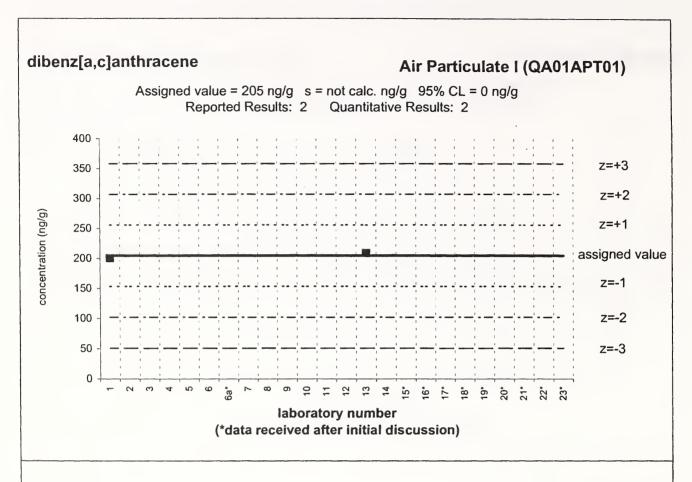


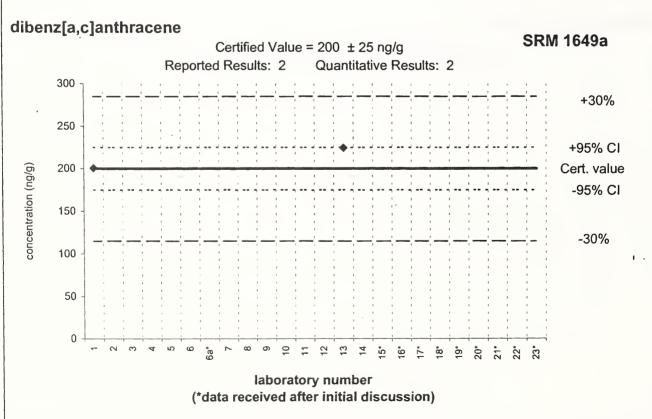


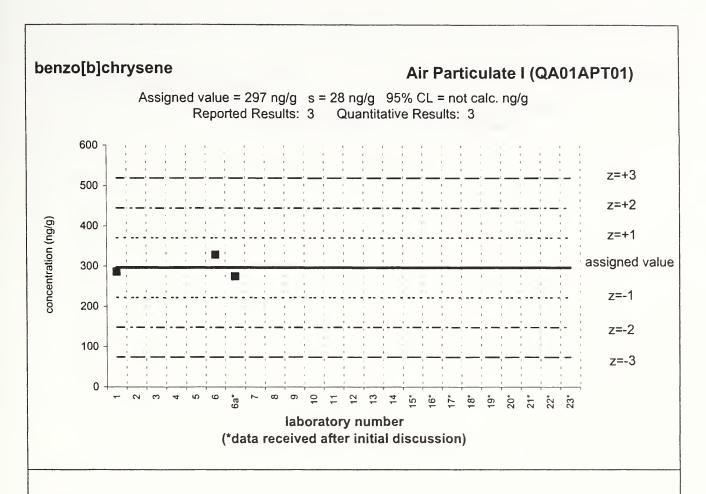


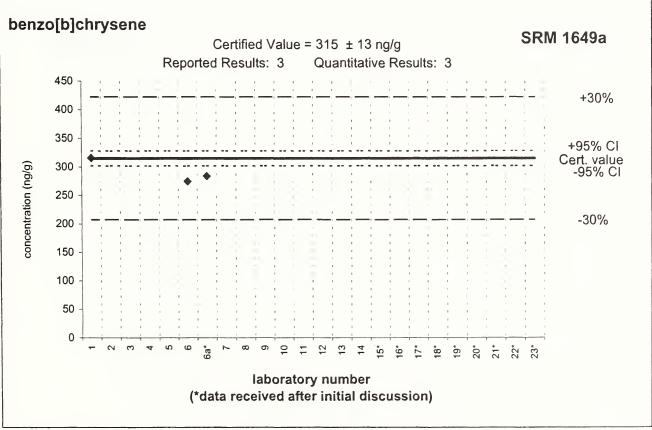


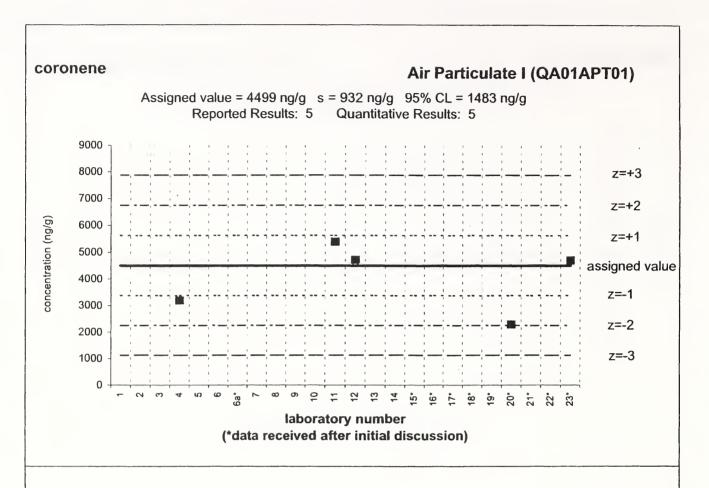


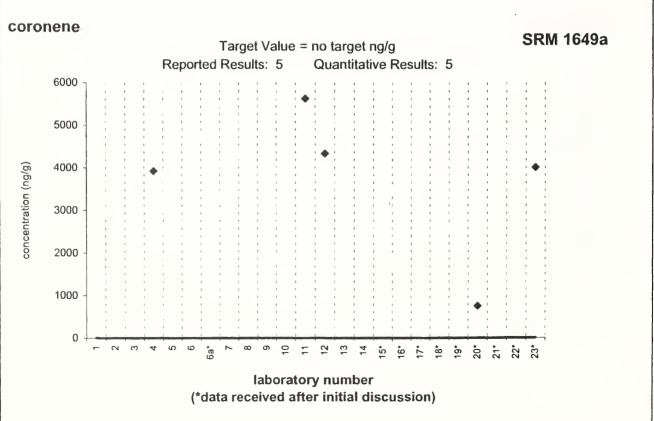


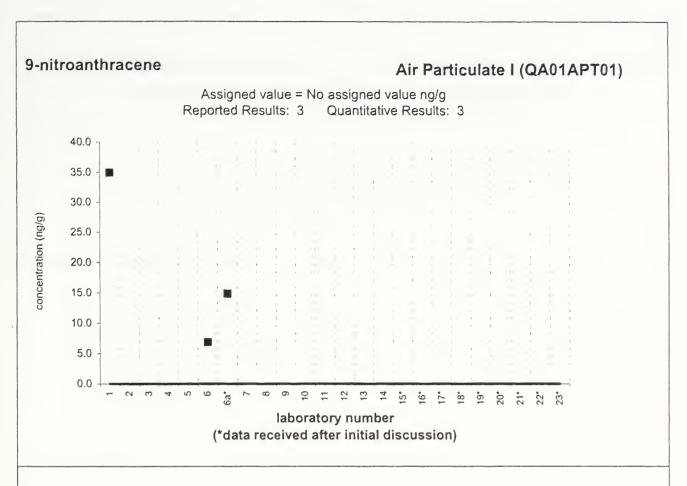


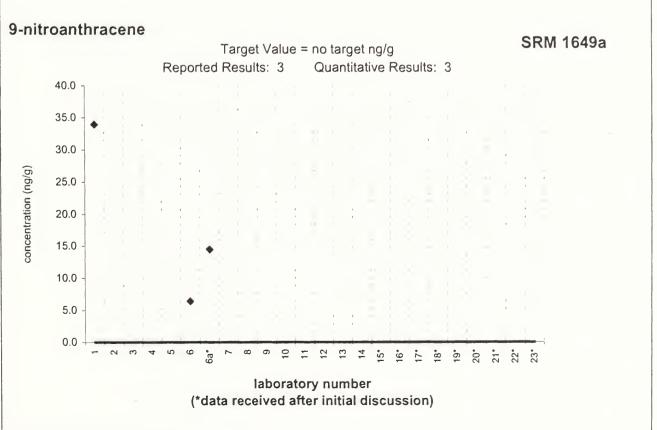


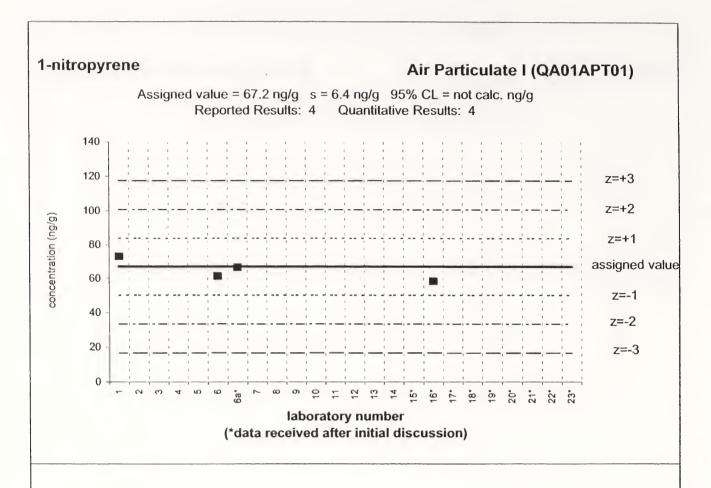


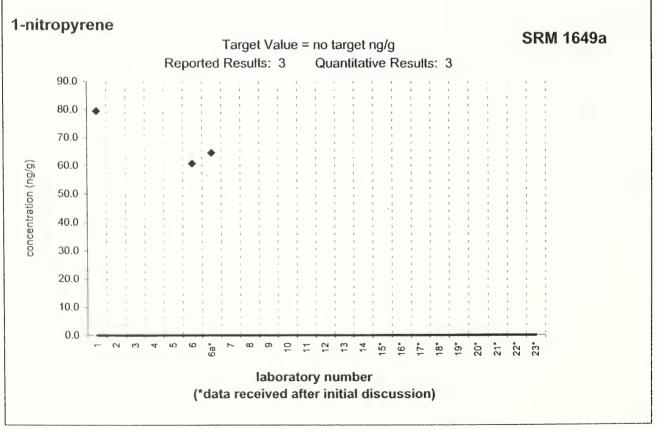


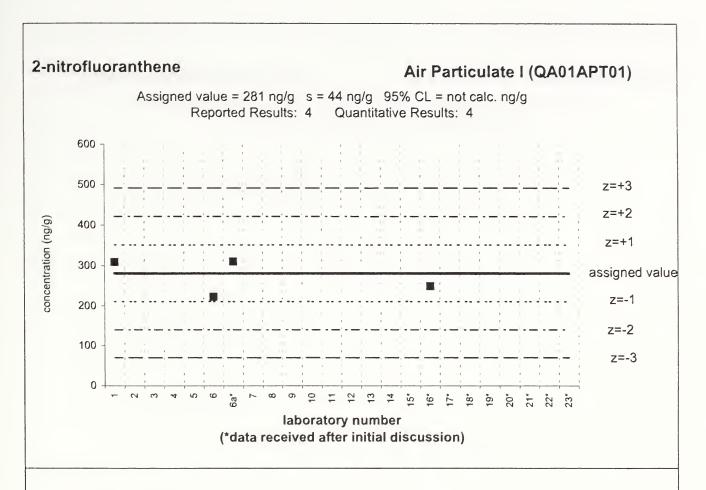


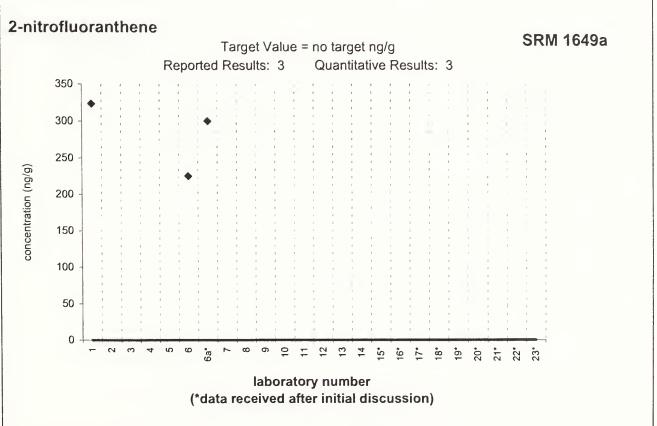


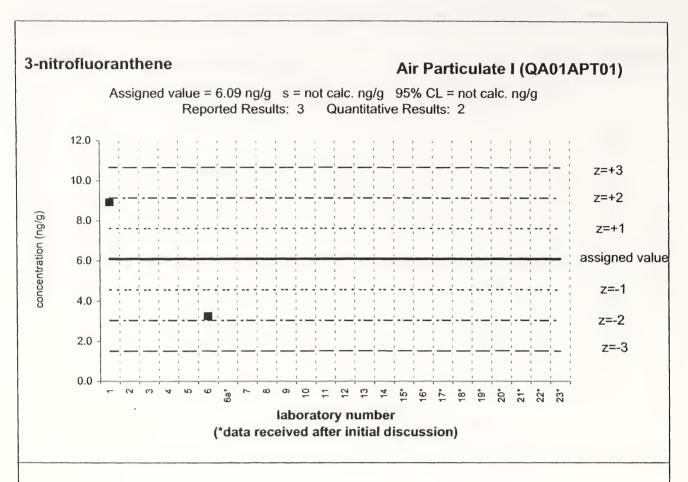


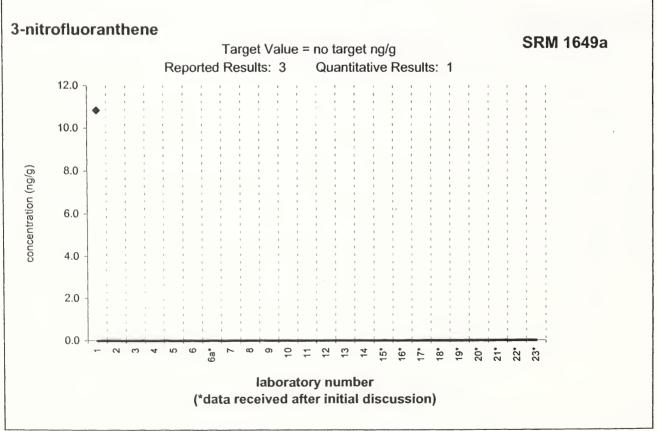


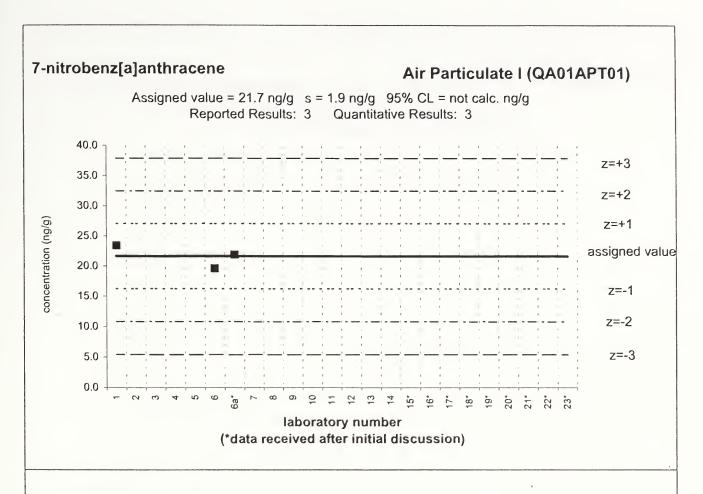


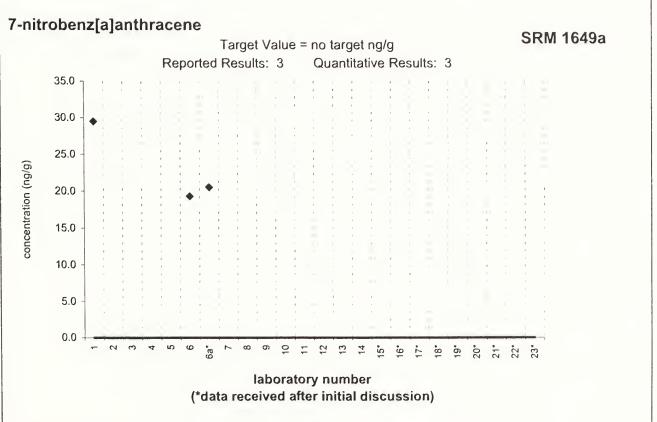


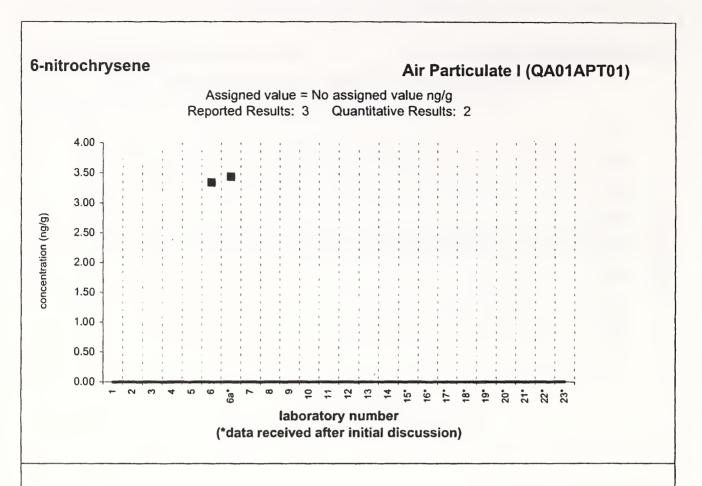


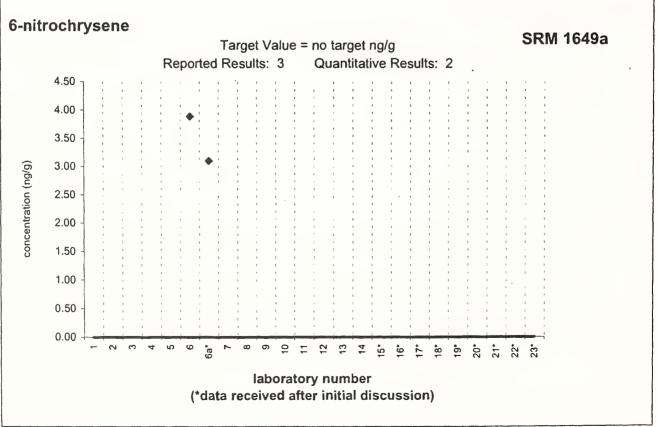








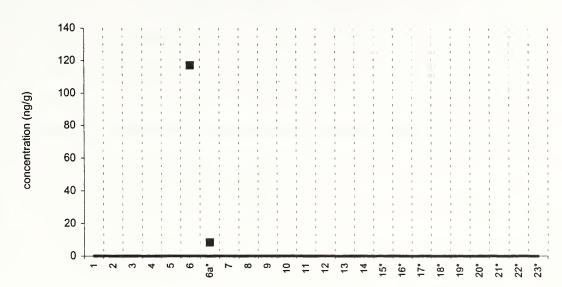






### Air Particulate I (QA01APT01)

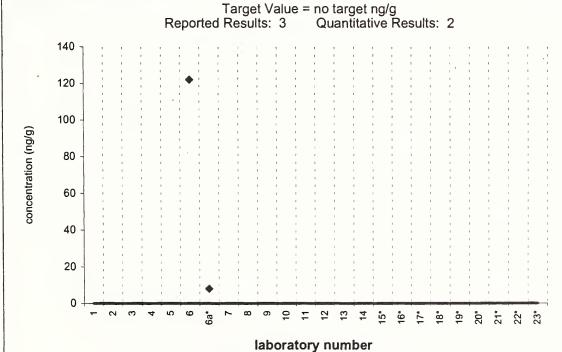
Assigned value = No assigned value ng/g Reported Results: 3 Quantitative Results: 2



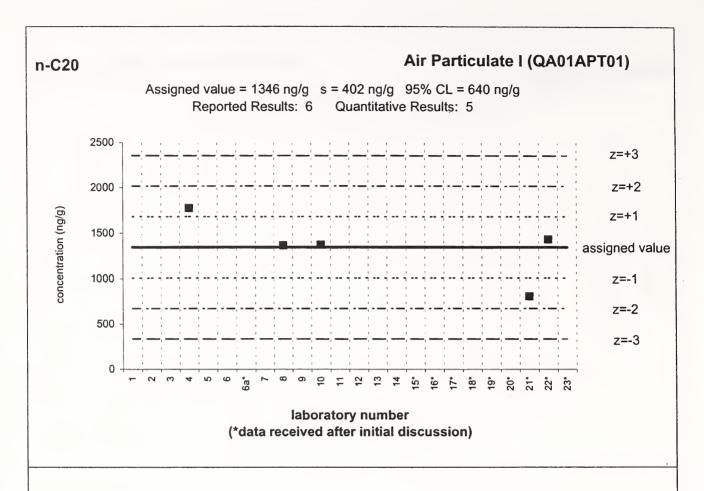
laboratory number (\*data received after initial discussion)

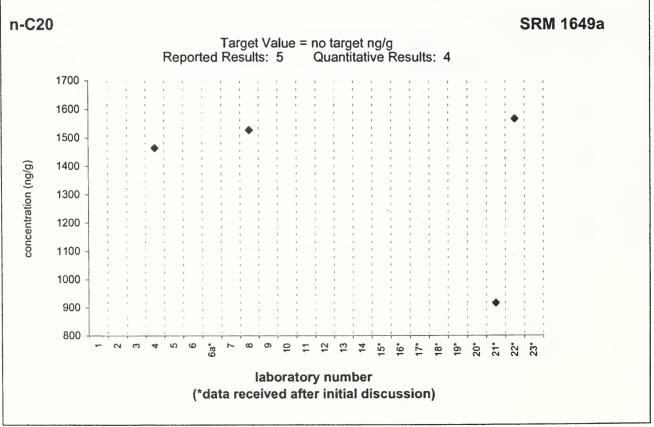
## 6-nitrobenzo[a]pyrene

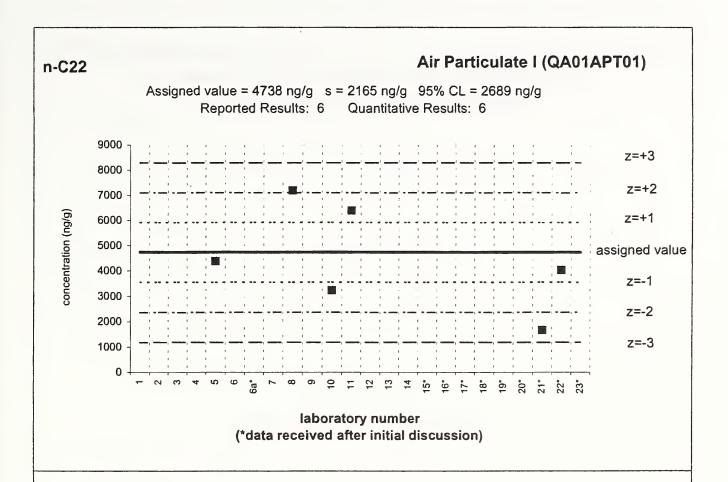
SRM 1649a

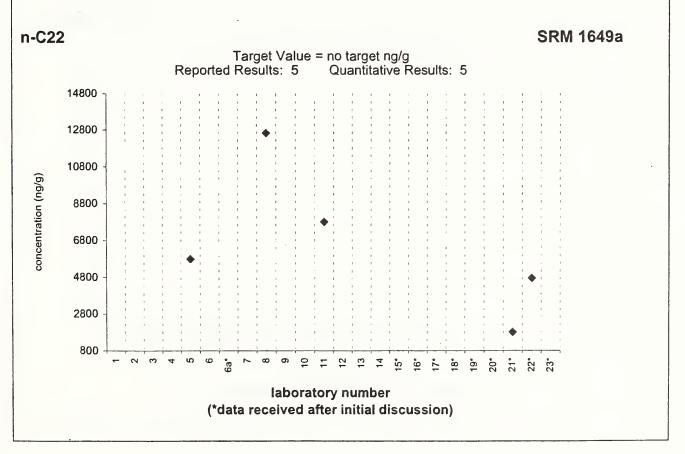


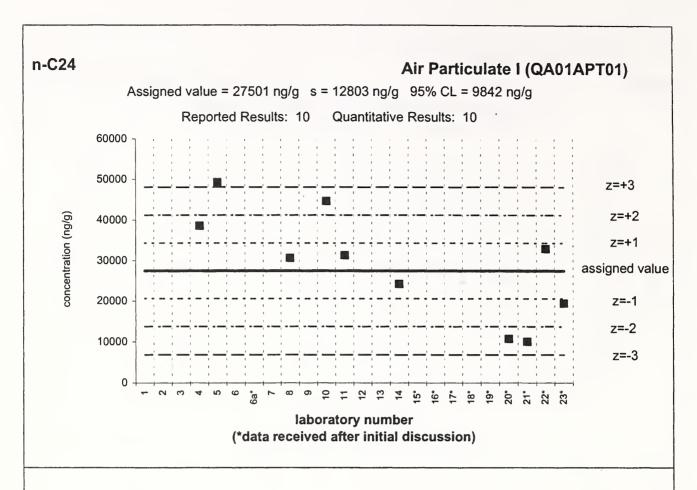
(\*data received after initial discussion)

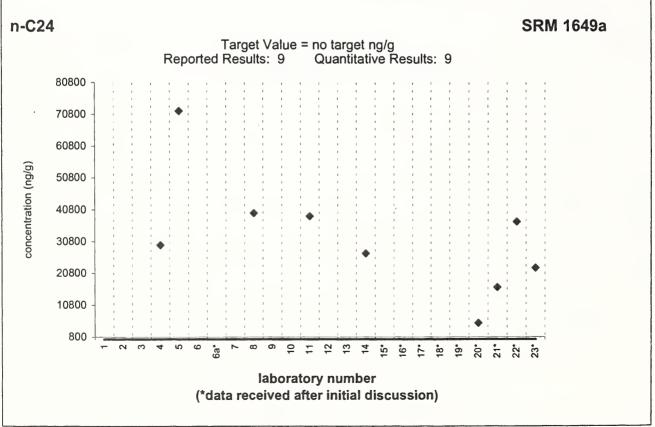


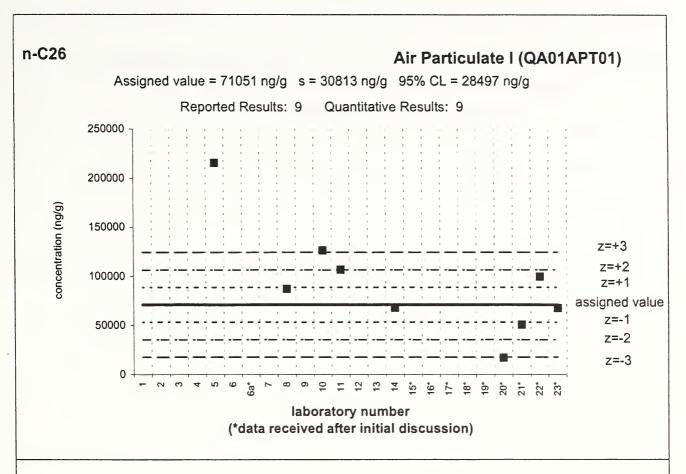


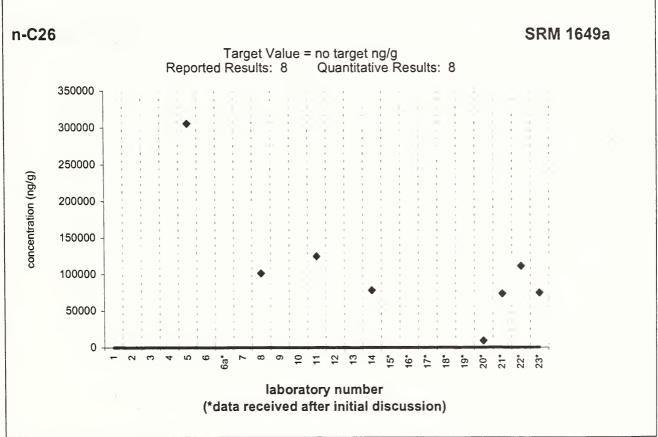


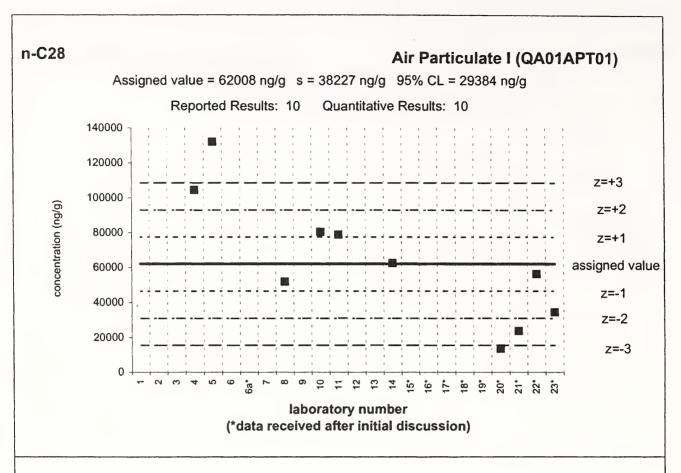


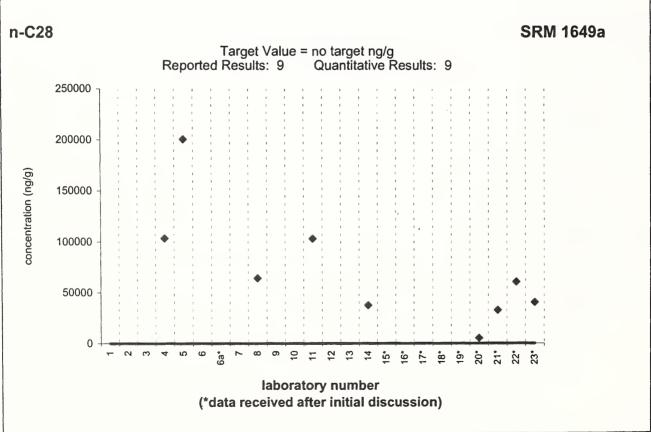


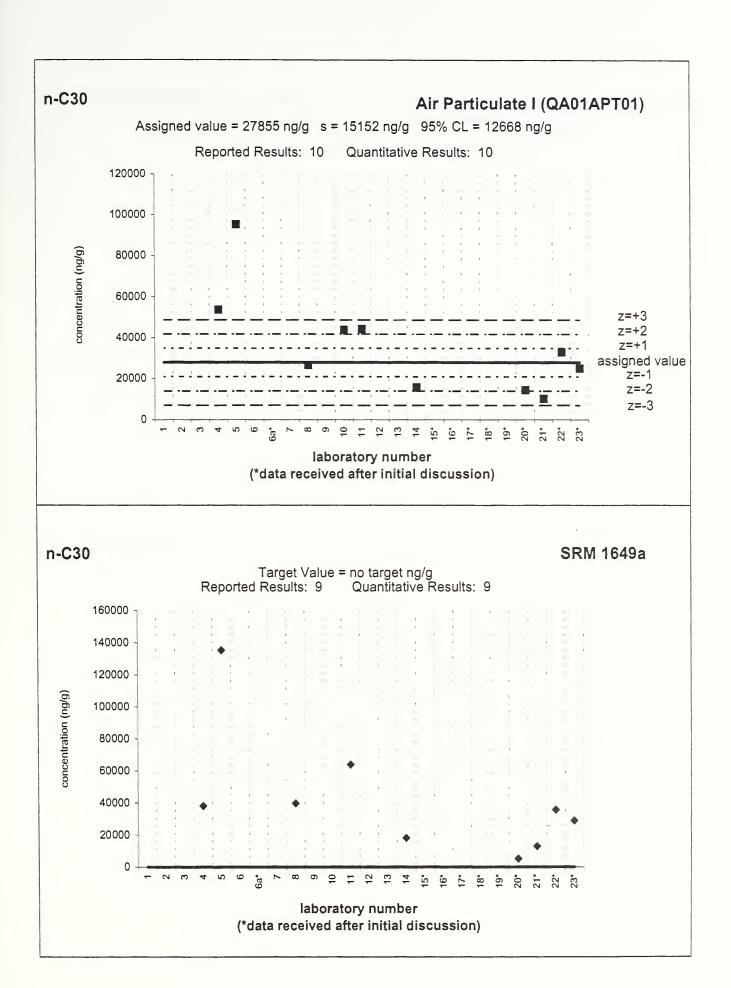


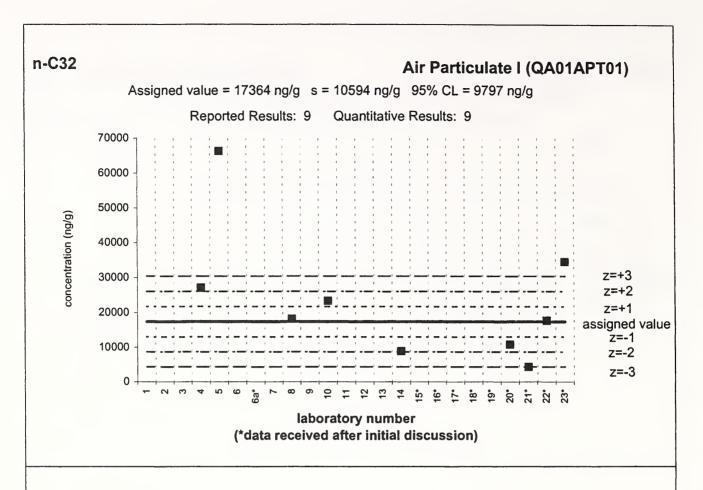


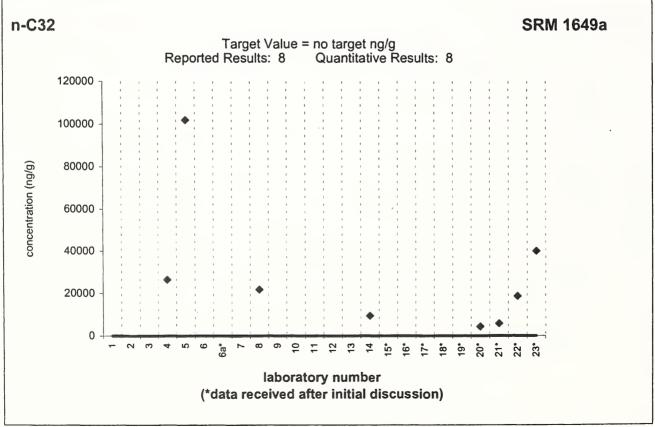


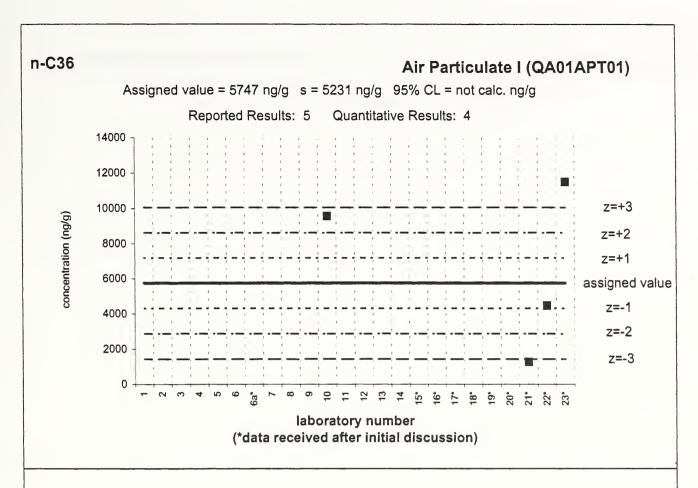


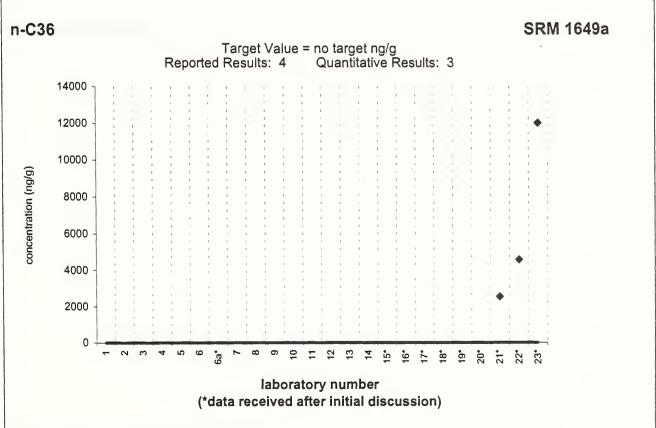


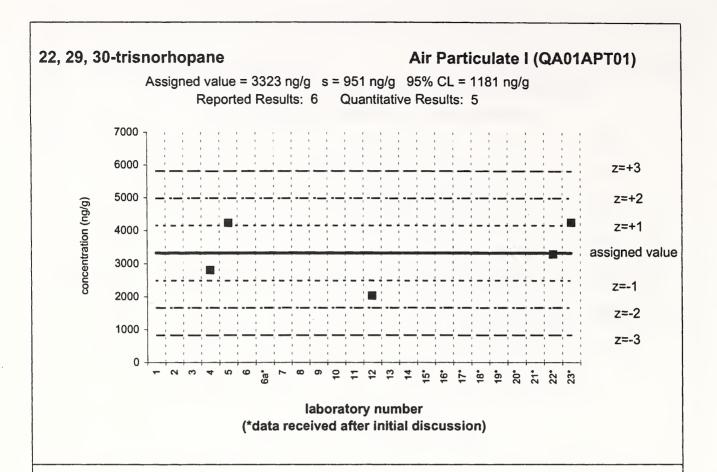


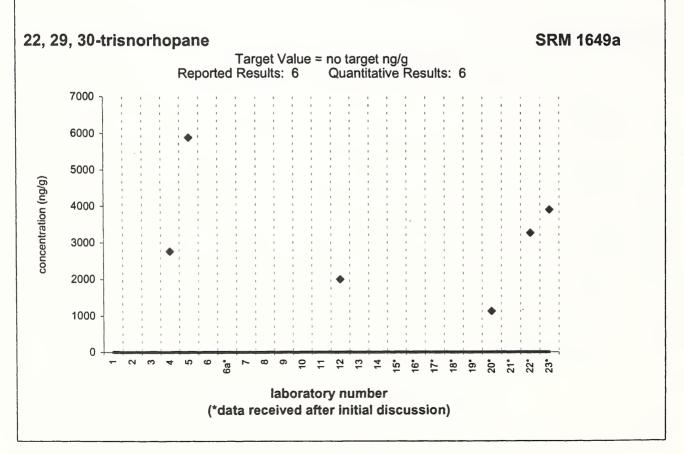


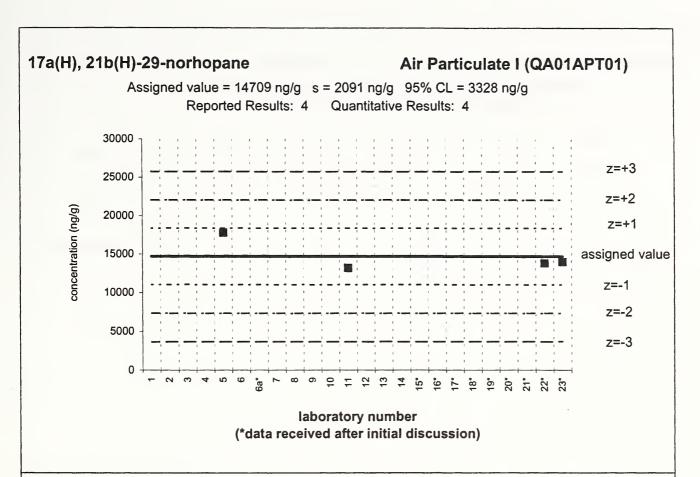


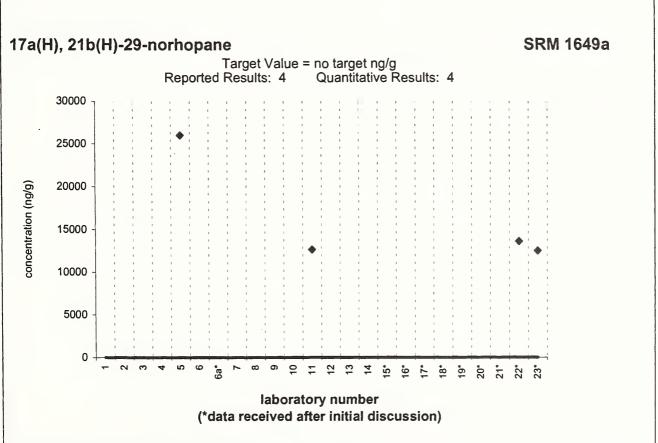


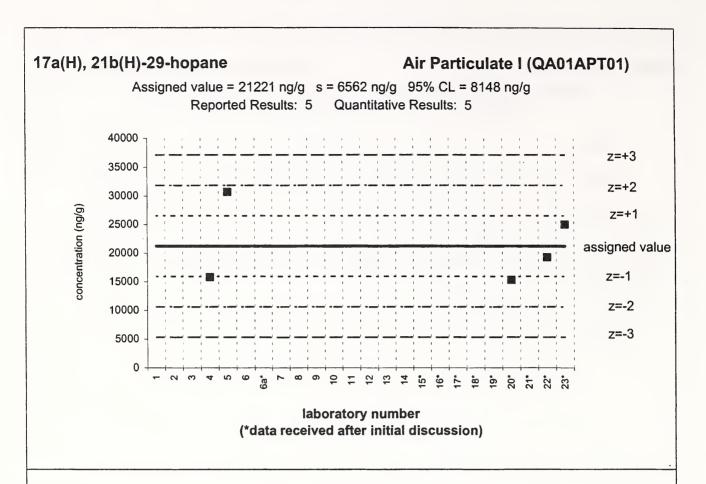


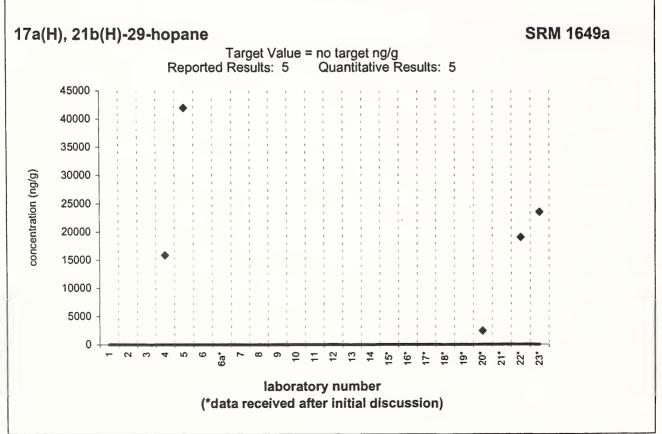


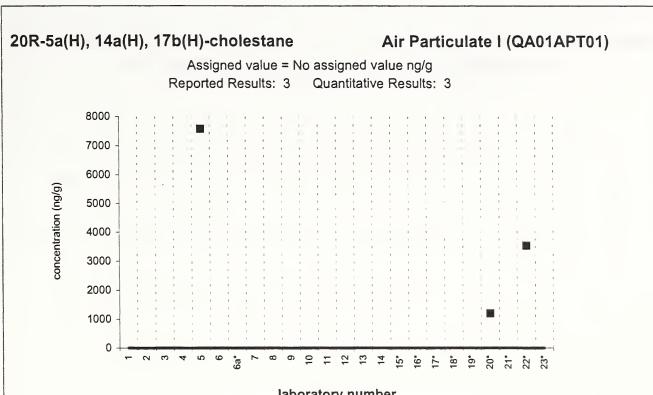




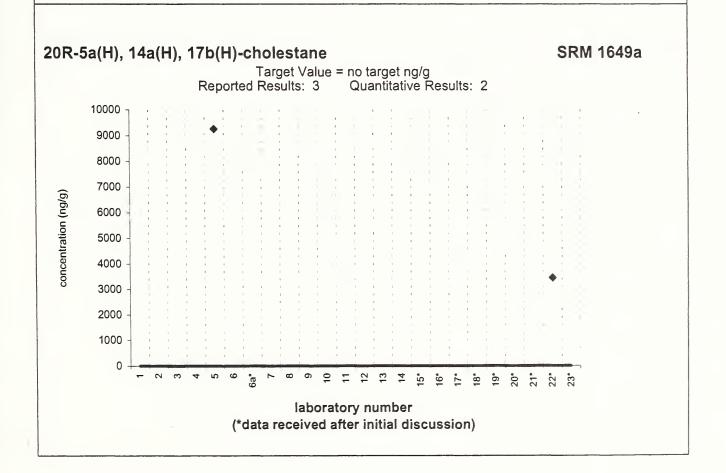


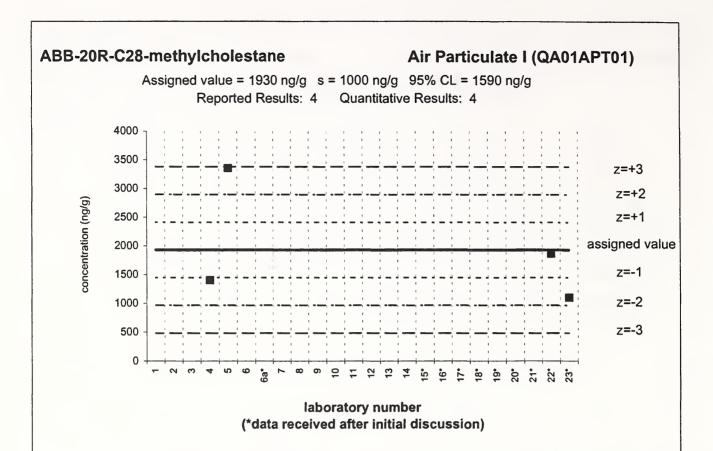


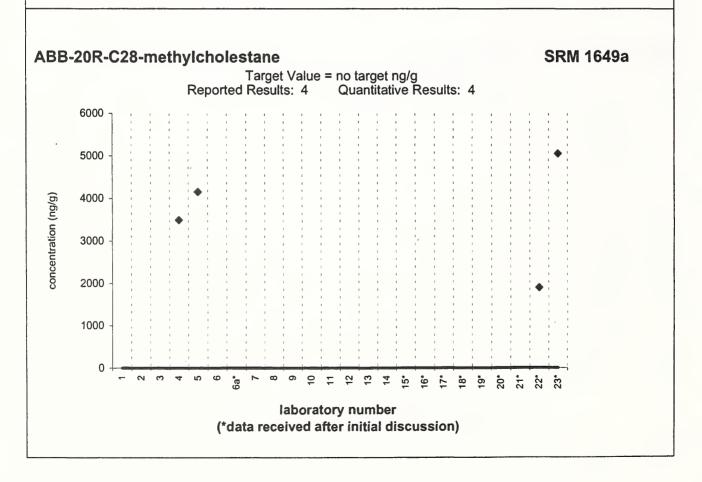


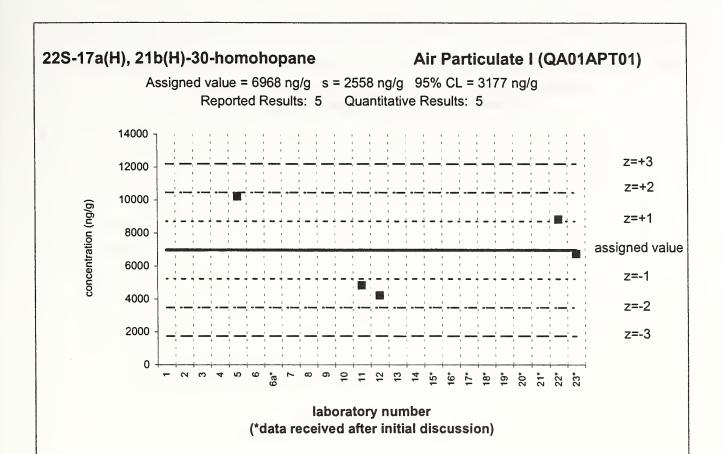


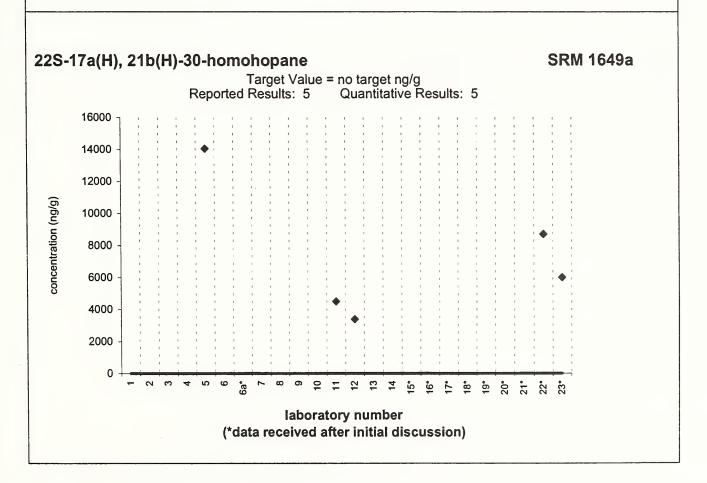
laboratory number (\*data received after initial discussion)

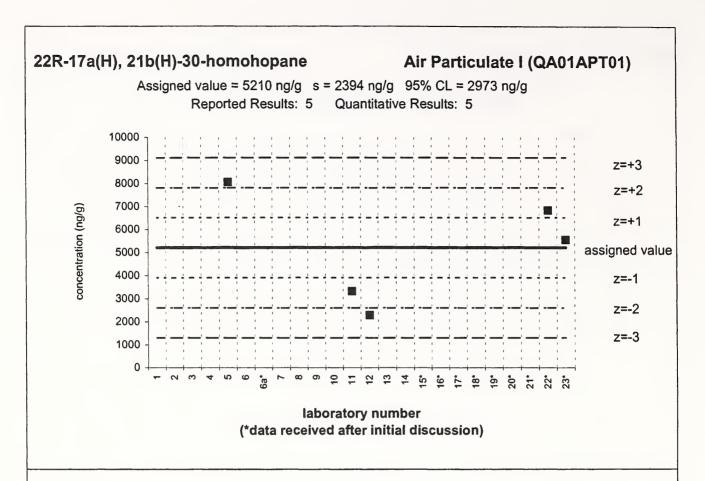


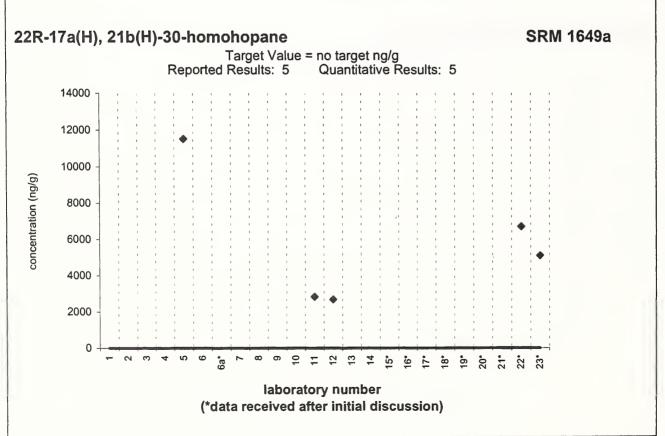


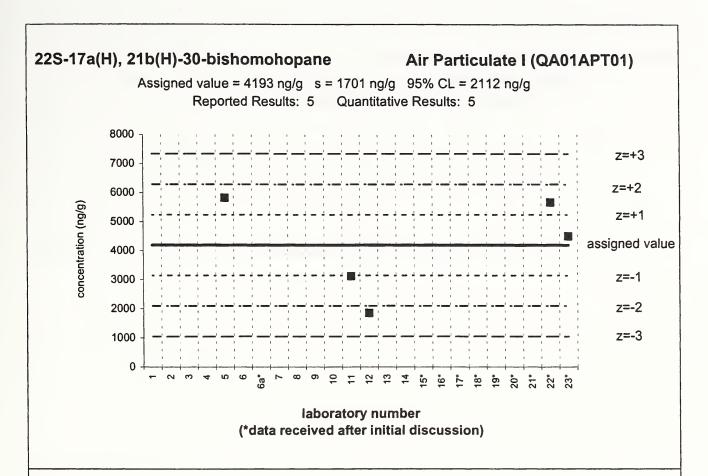


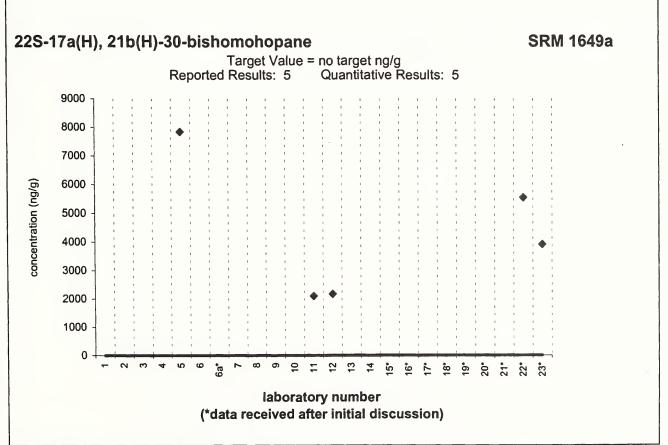


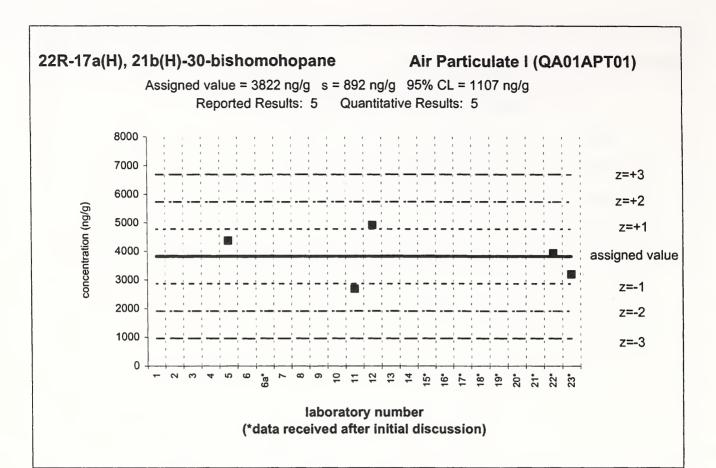


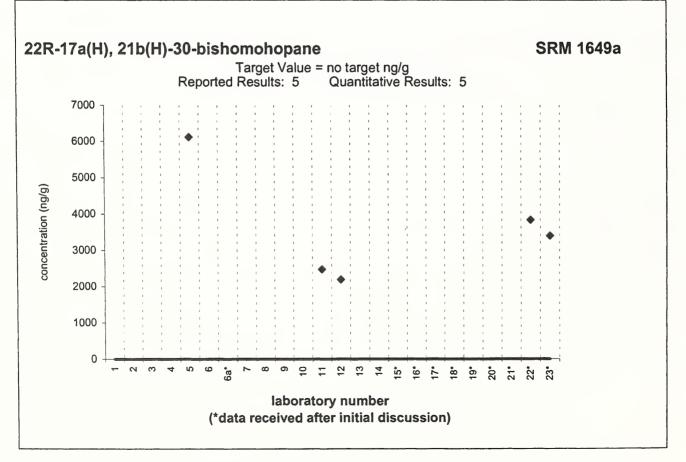


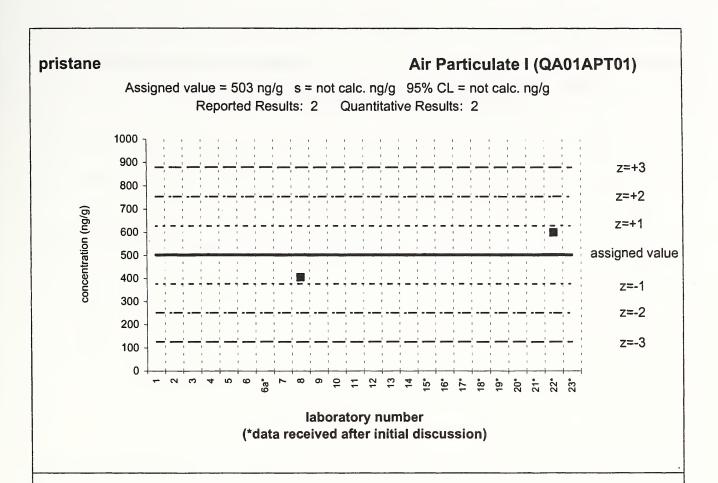


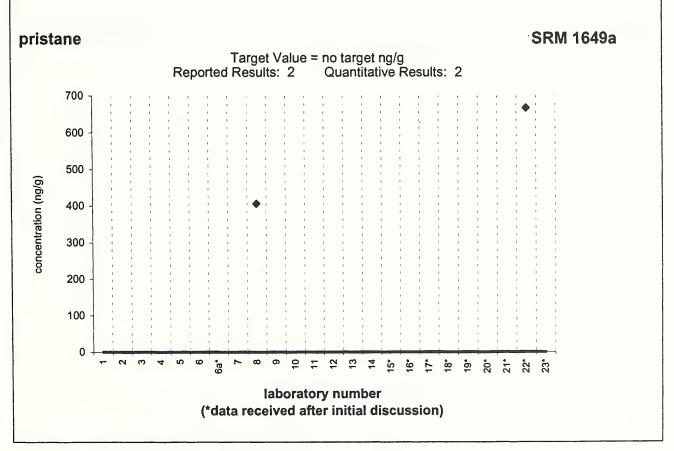


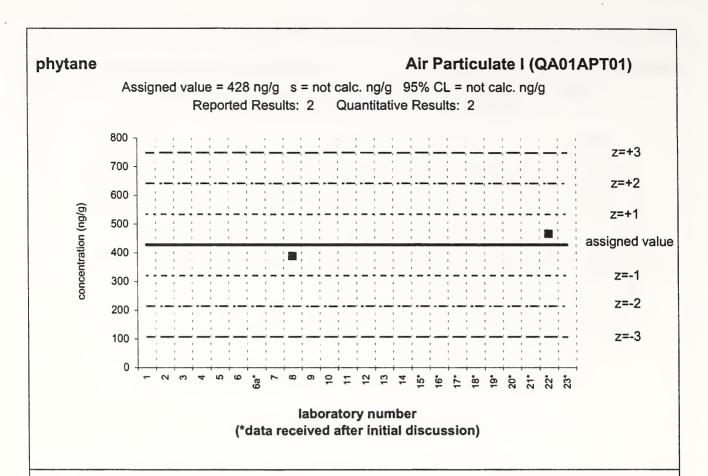


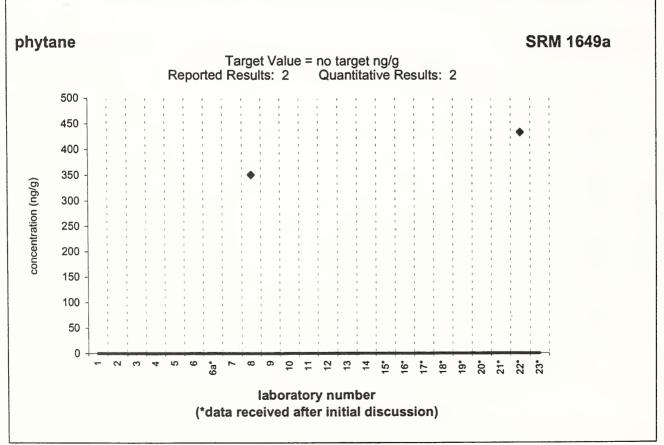


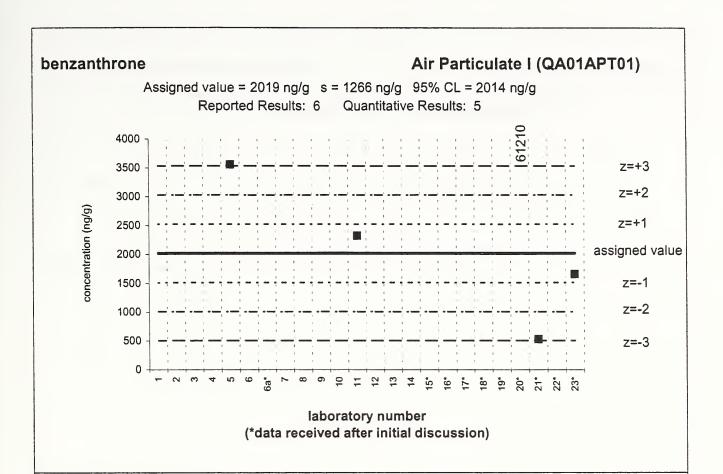


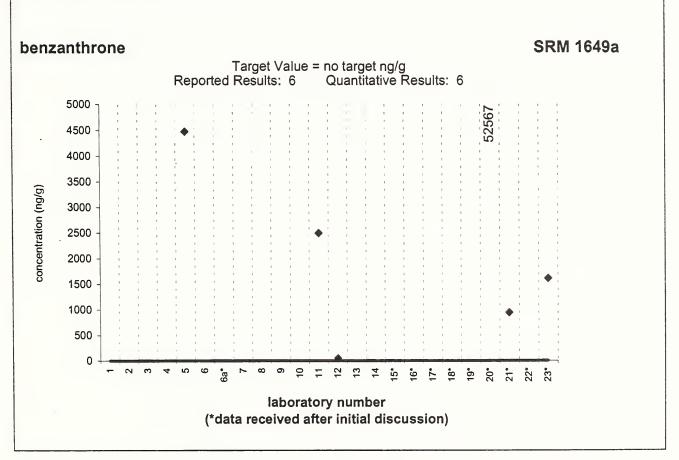


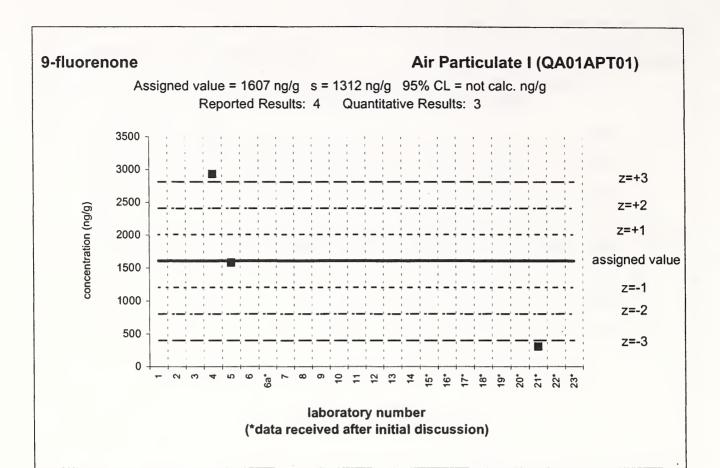


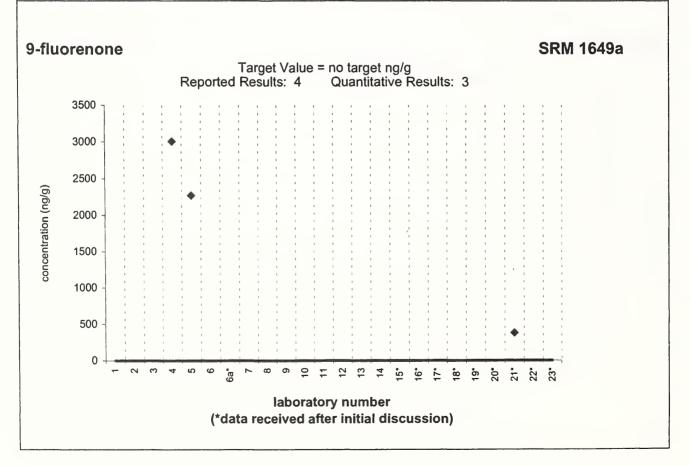


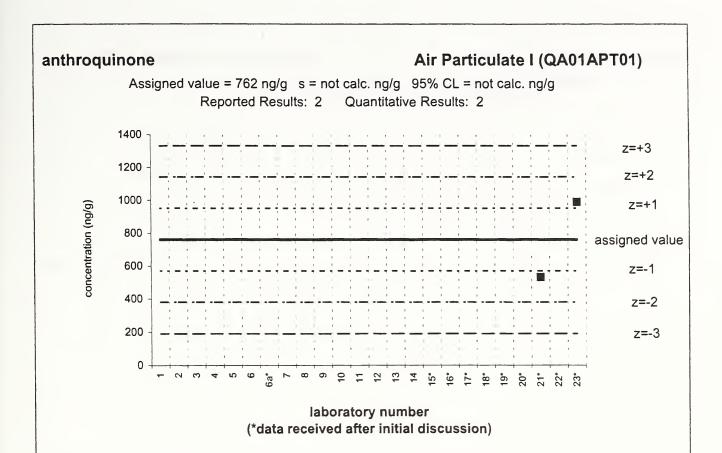


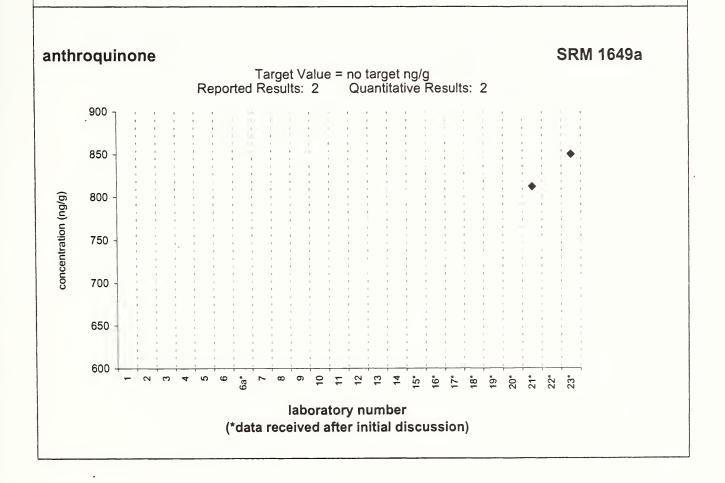


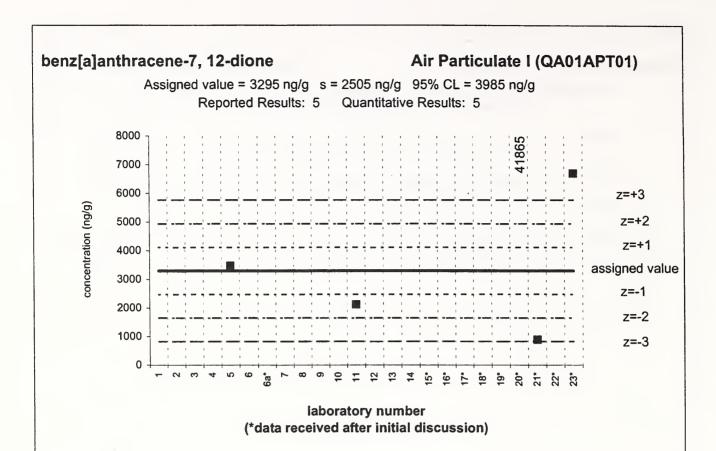


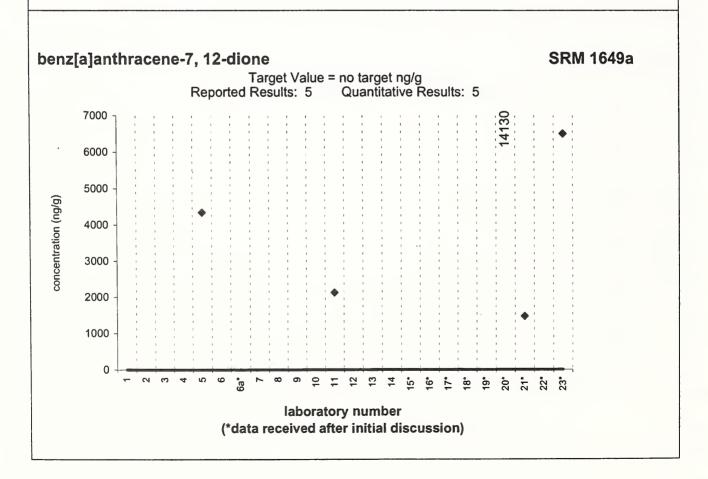


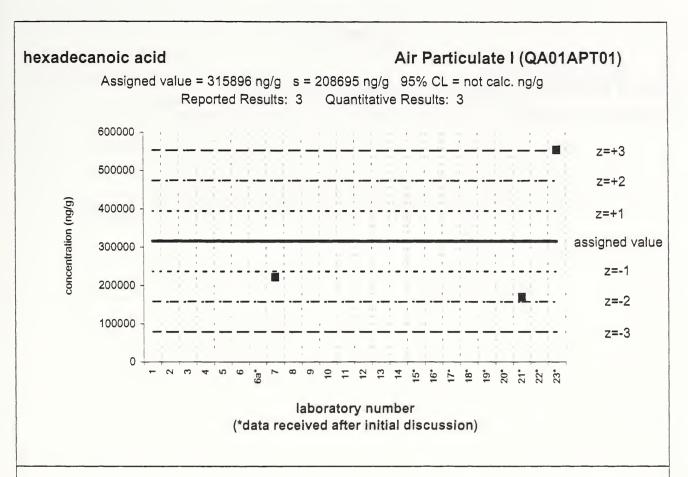


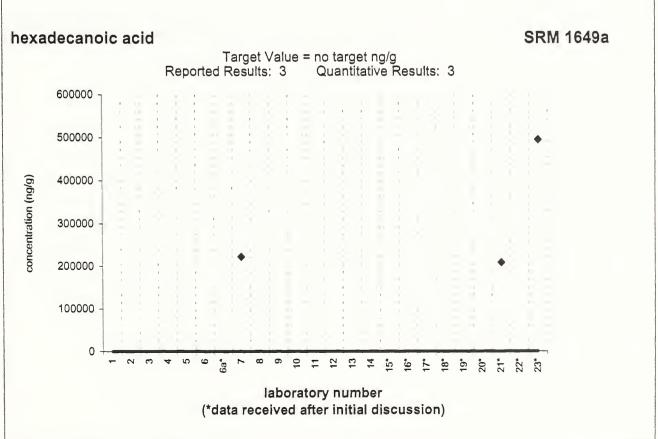












## Appendix F

# Charts of PM 2.5 Interim RM and SRM 1649a Results by Analyte

See Tables 9 and 10 for results reported as <*number*, detection limit, etc. Charts for analytes with only one reported numerical result are not included in this appendix.

#### For PM 2.5 Interim RM plots:

Solid line: exercise assigned value

Dotted line:  $z = \pm 1$ , i. e., 25 % from assigned value

Dotted/dashed line:  $z = \pm 2$ , i. e., 50 % from assigned value

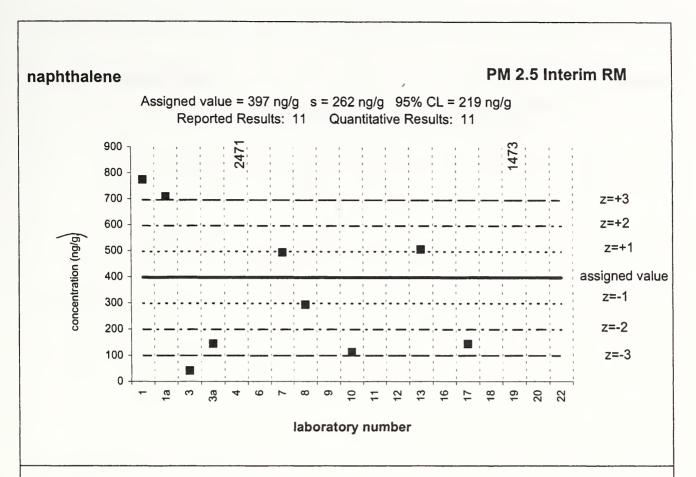
Dashed line:  $z = \pm 3$ , i. e., 75 % from assigned value

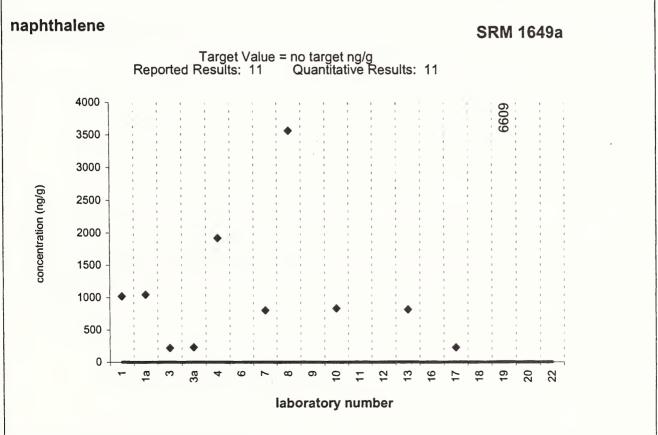
### For SRM 1649a plots:

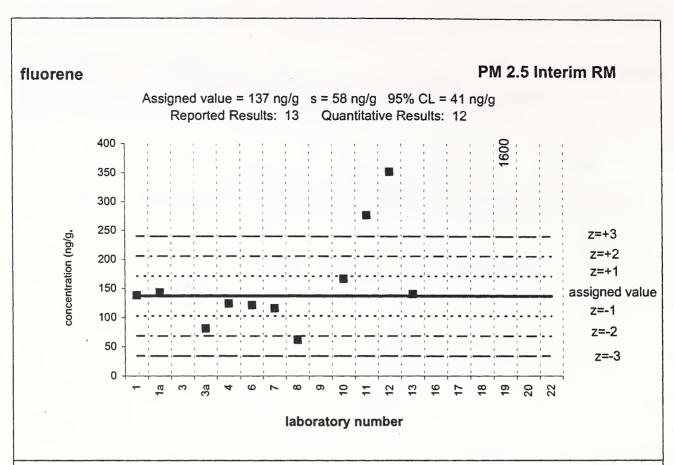
Solid line: material certified concentration or target value (see caption of each plot)

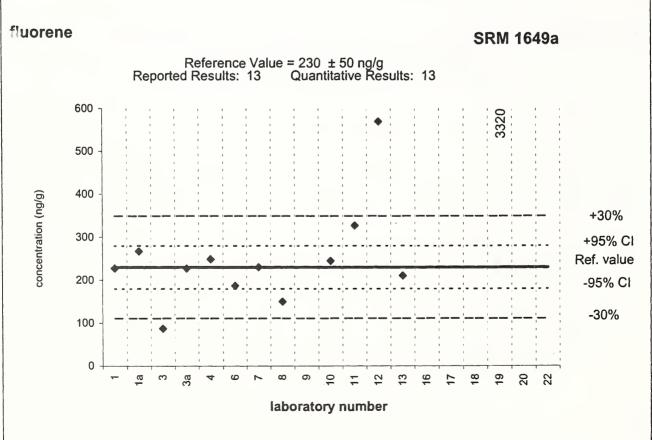
Dotted line: 95 % confidence interval (CI)

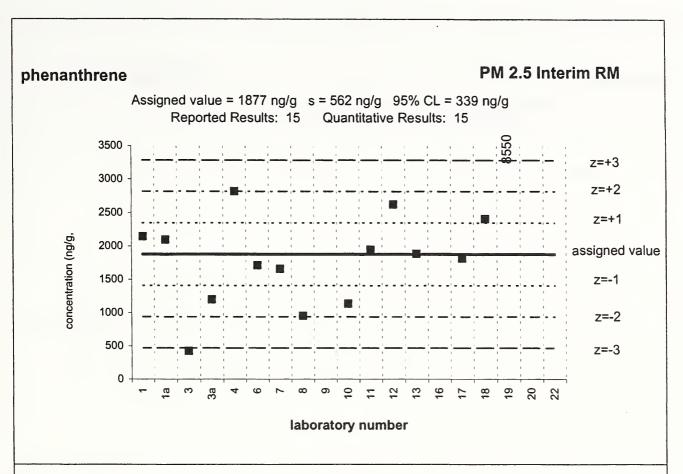
Dashed line: 30 % from 95 % confidence interval (CI)

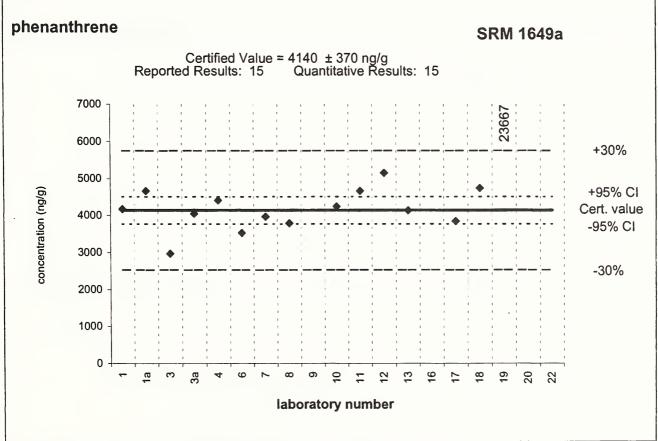


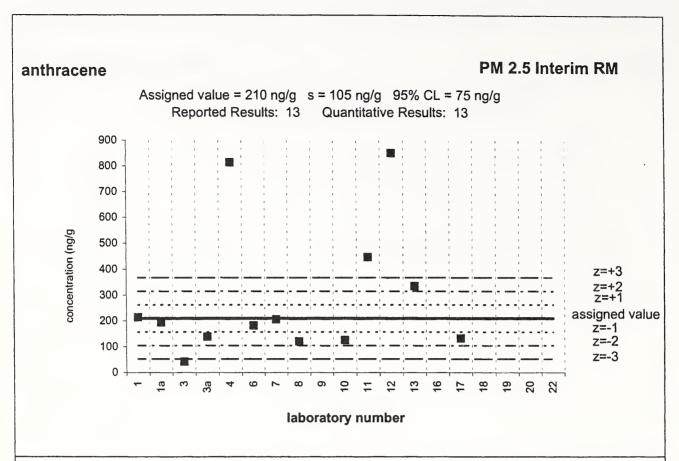


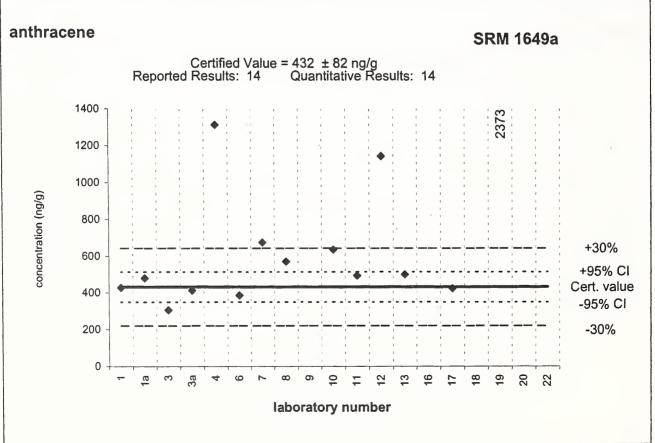


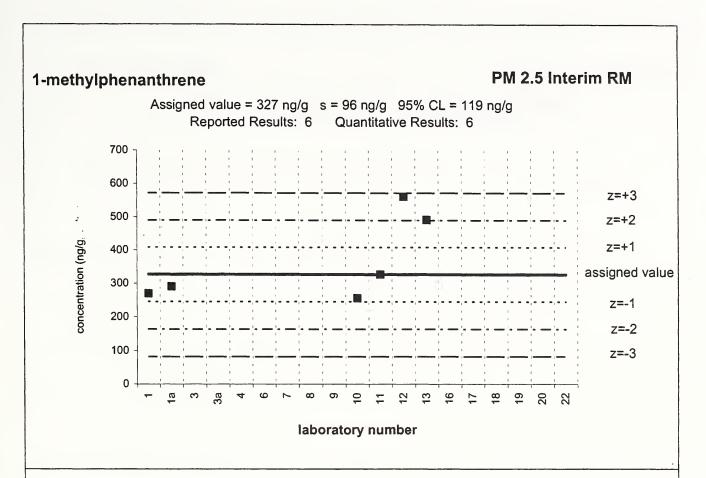


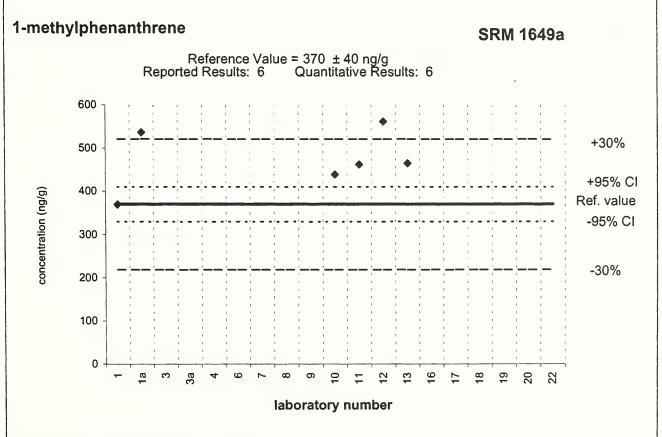


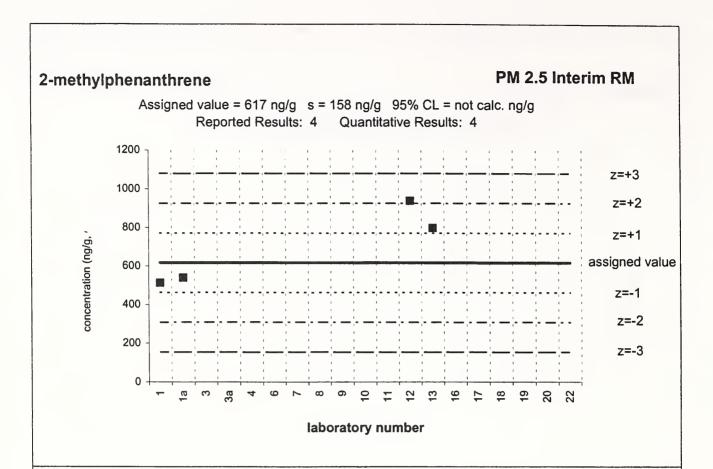


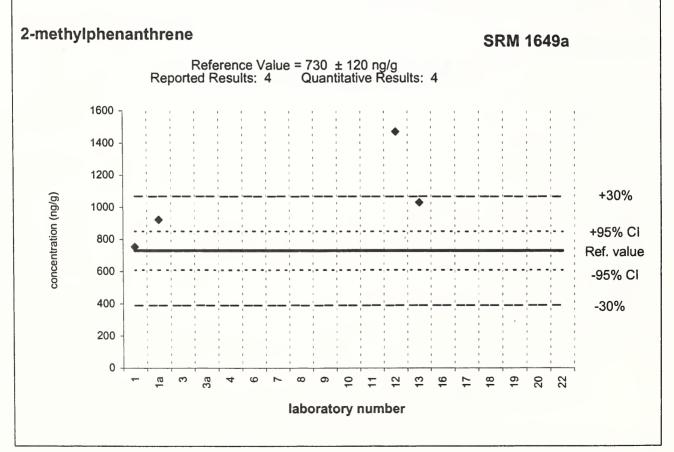


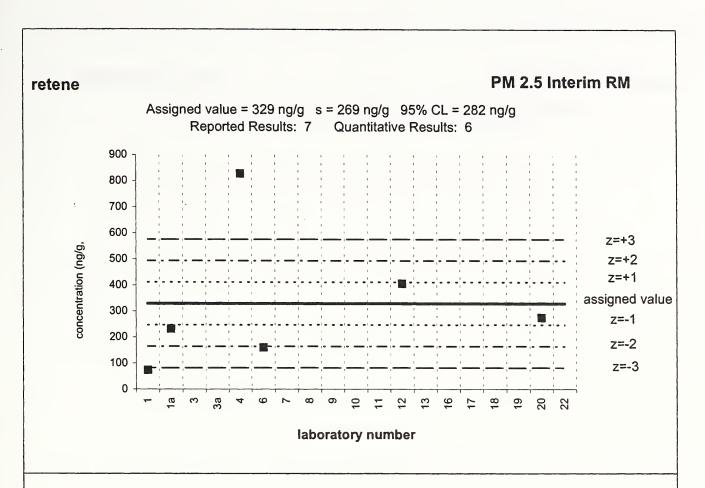


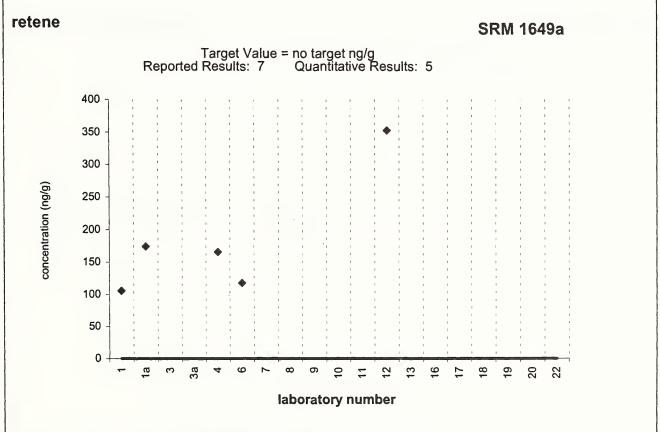


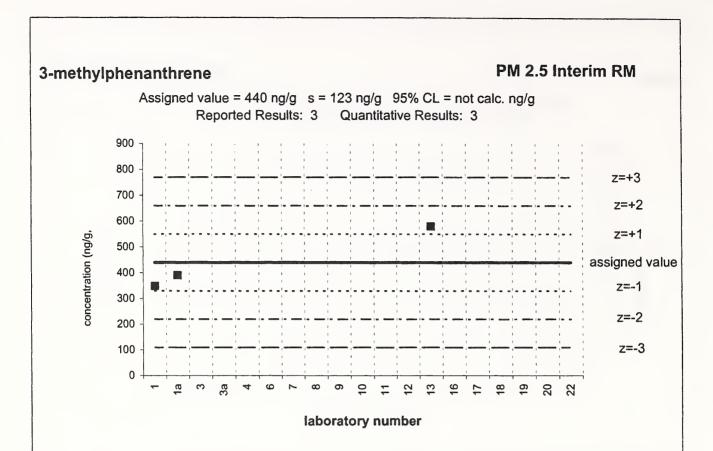


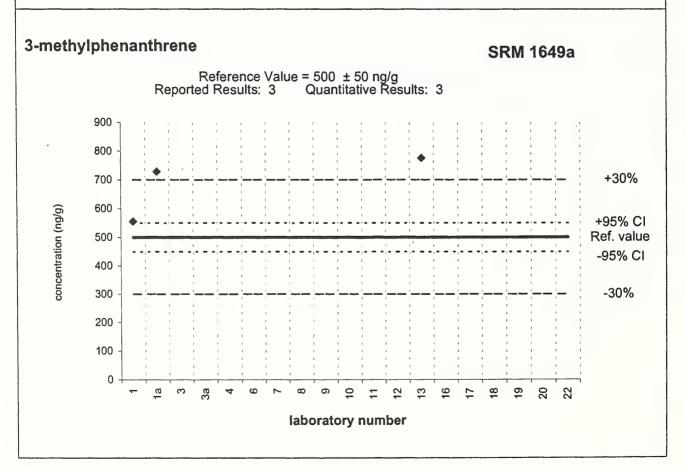


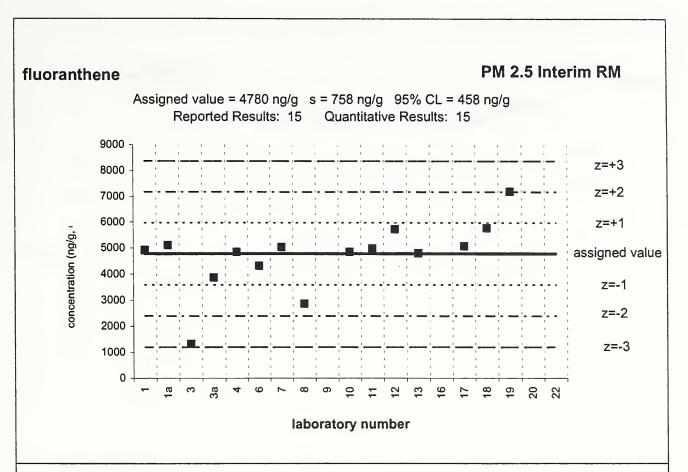


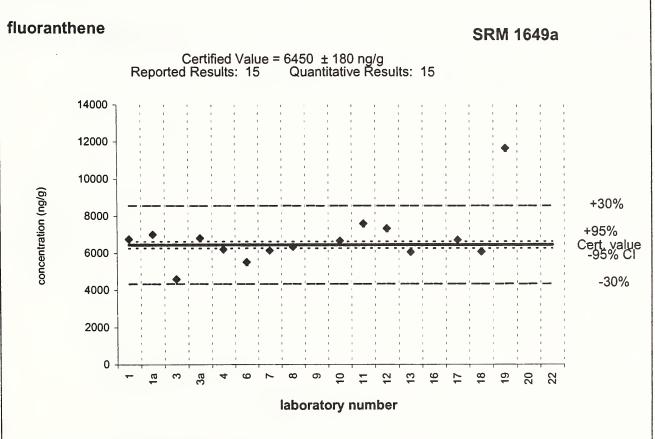


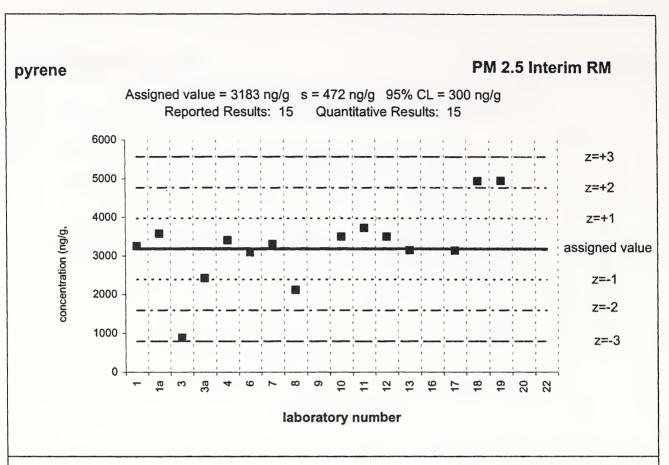


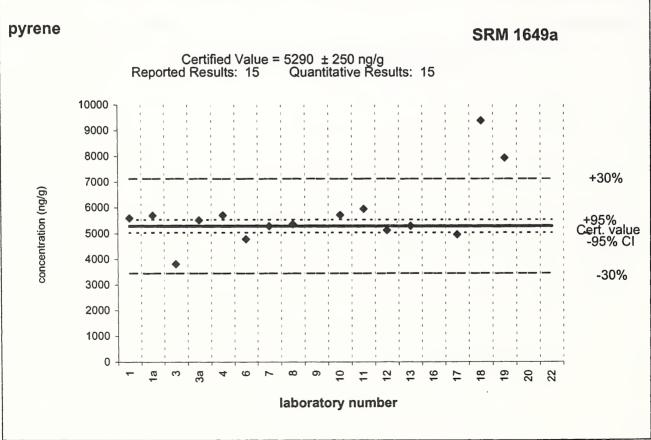


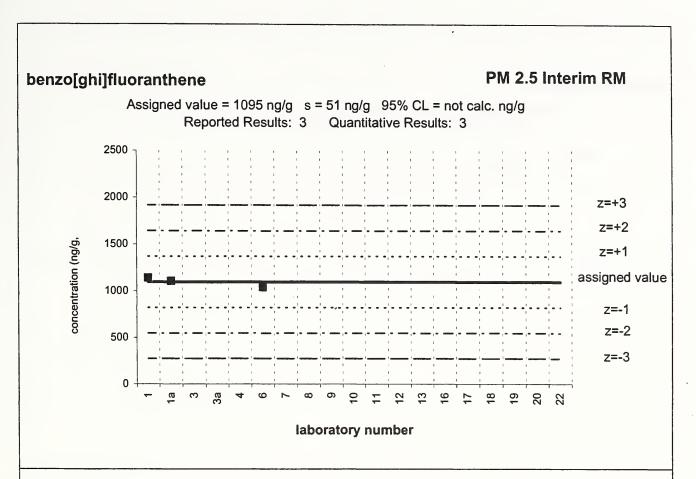


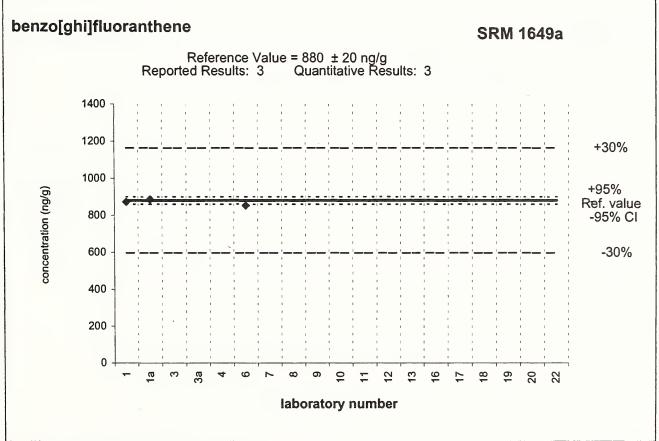


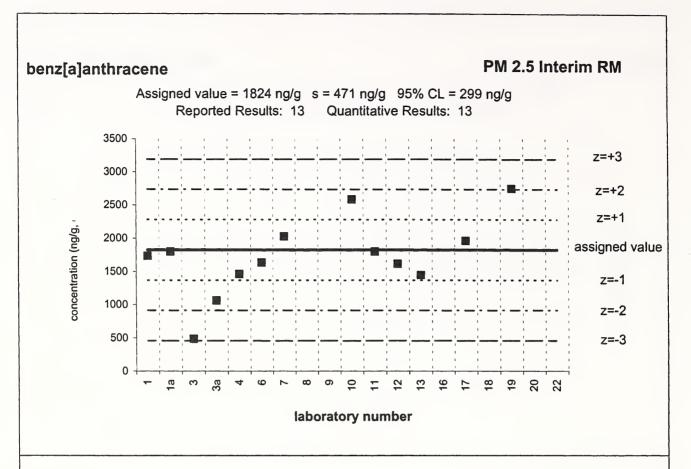


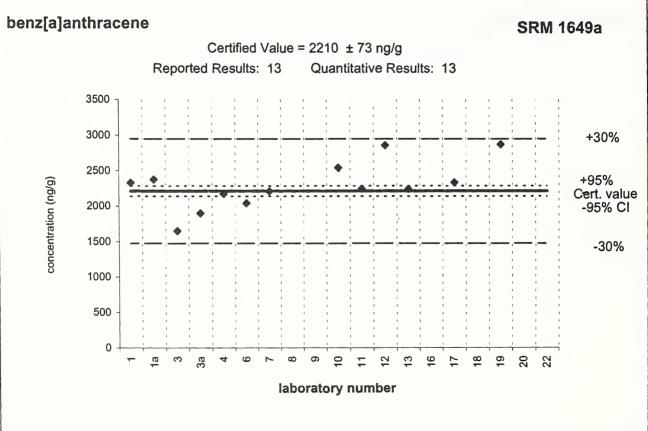


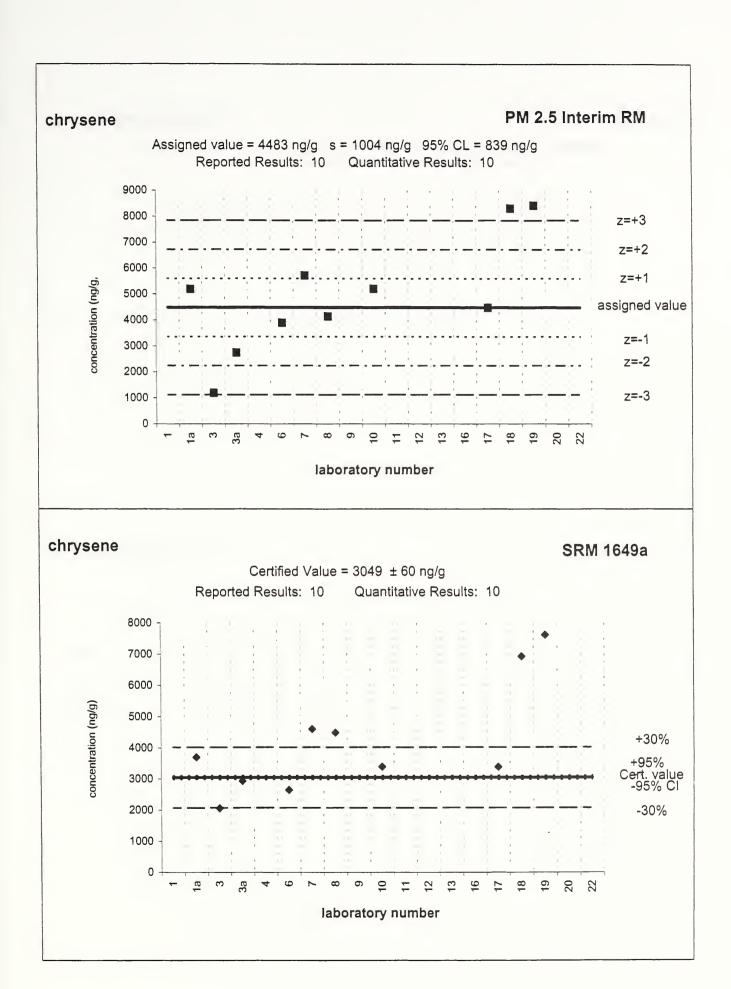


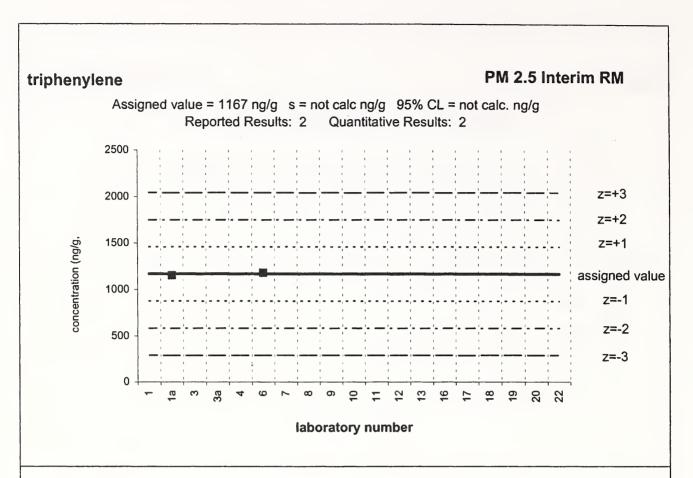


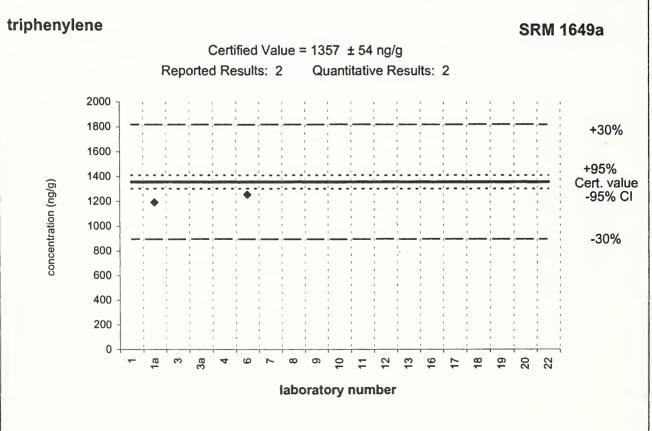


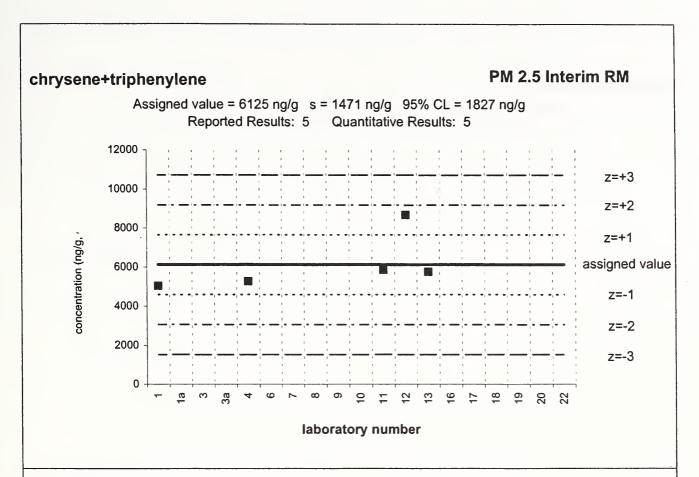


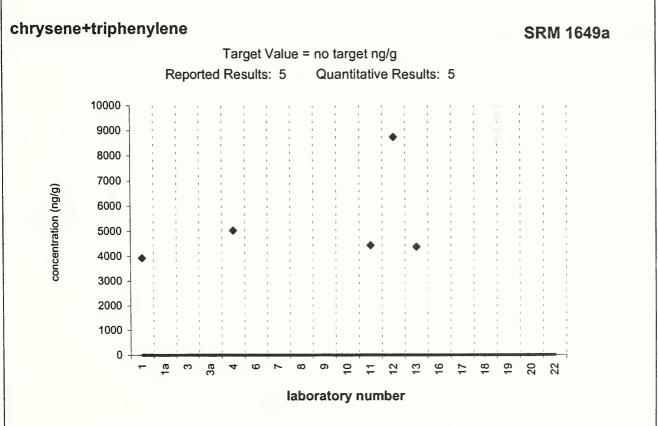


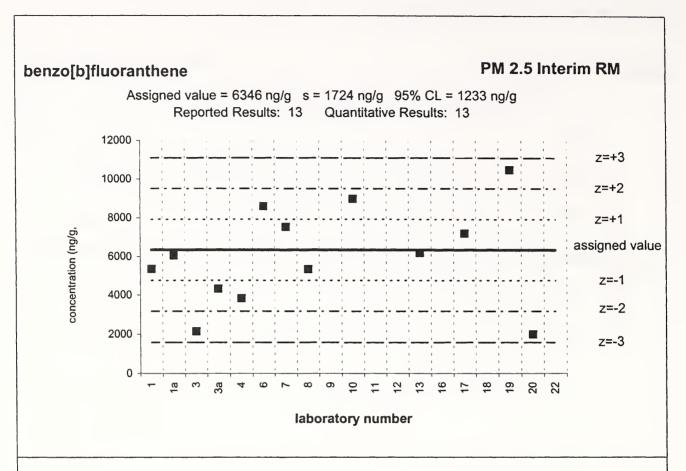


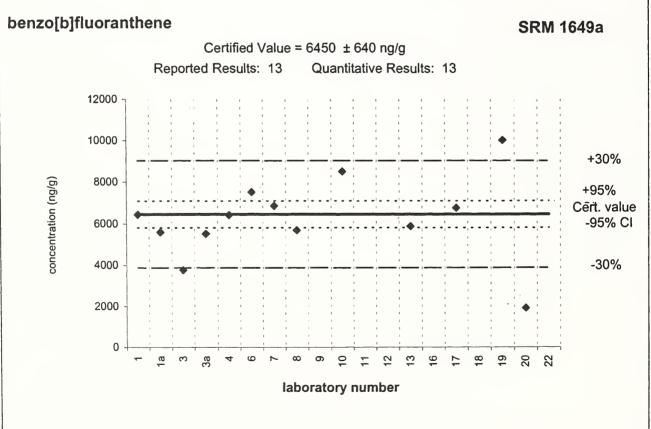


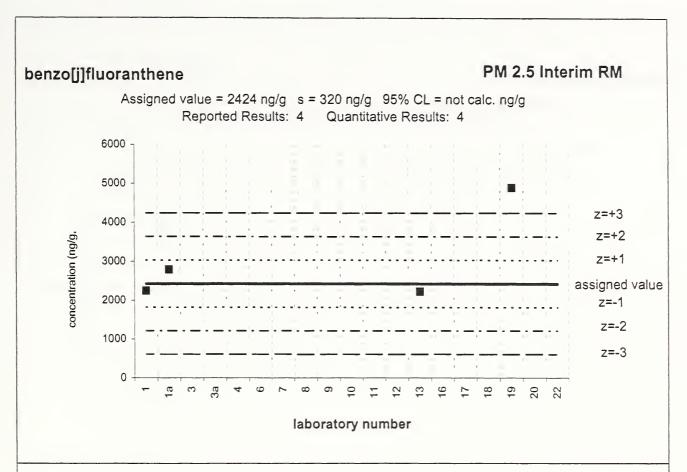


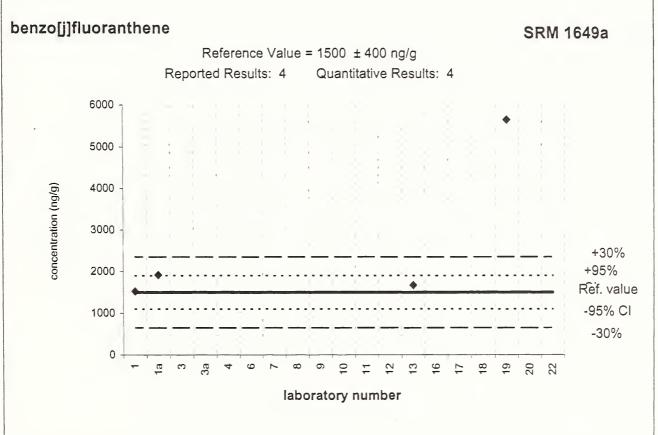


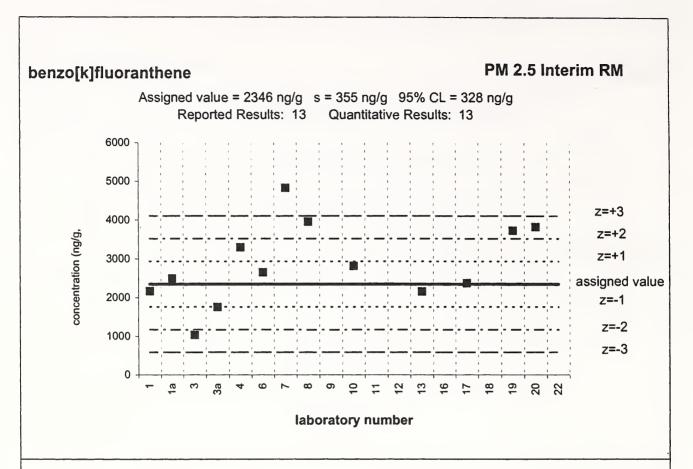


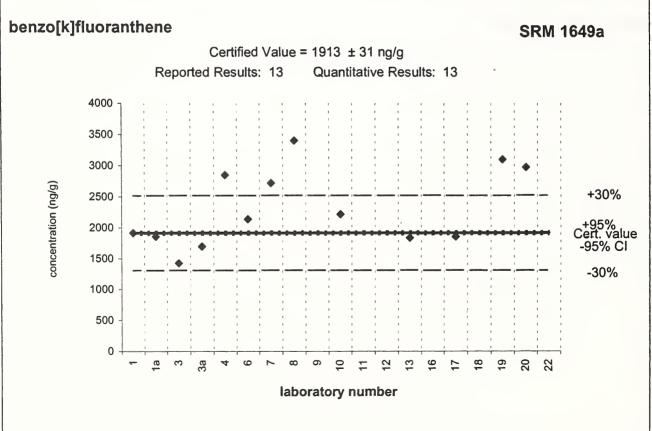


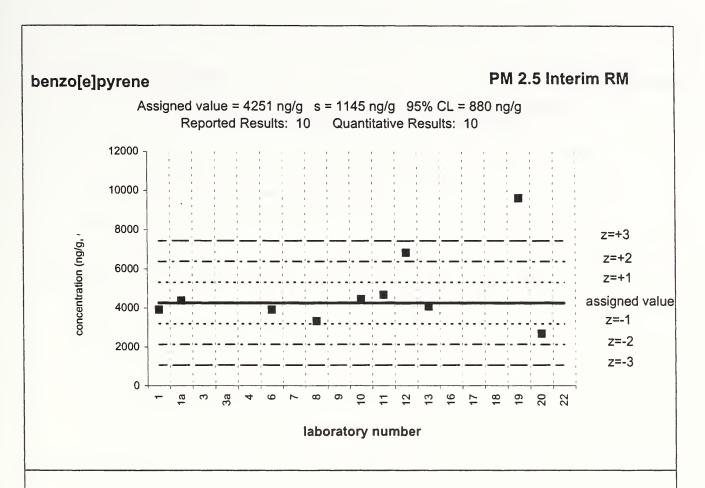


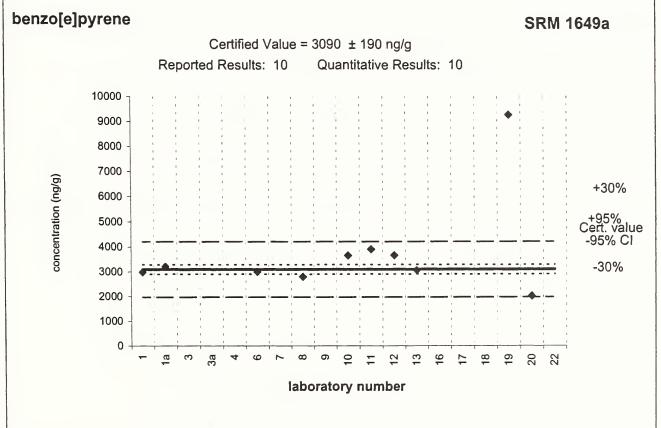


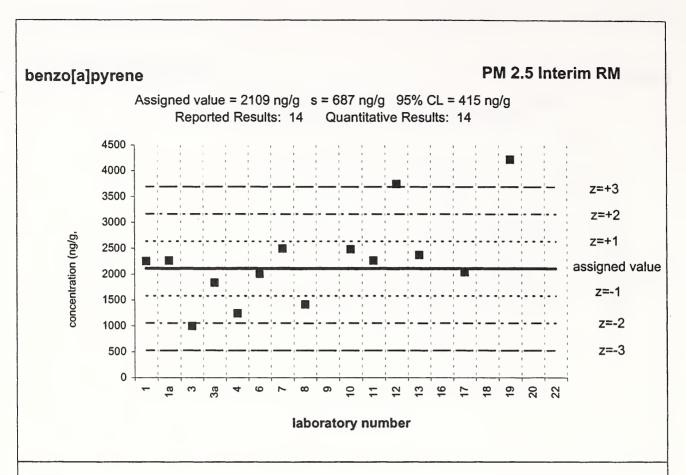


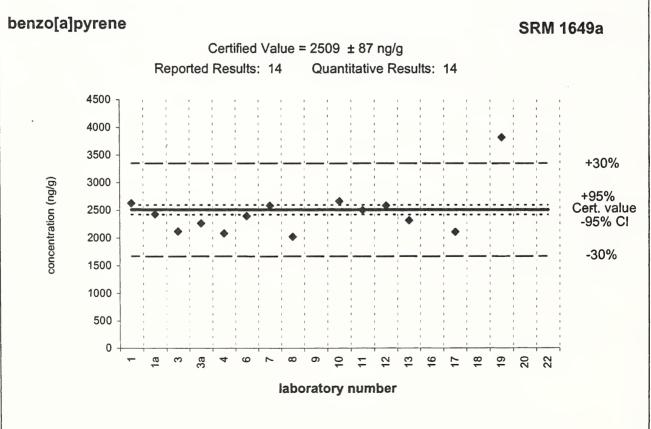


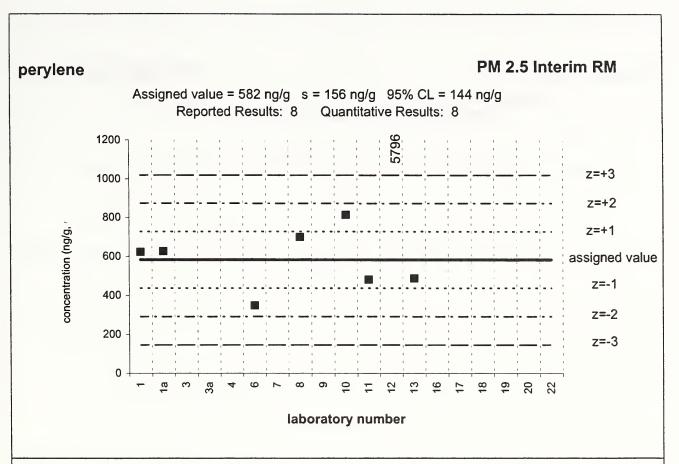


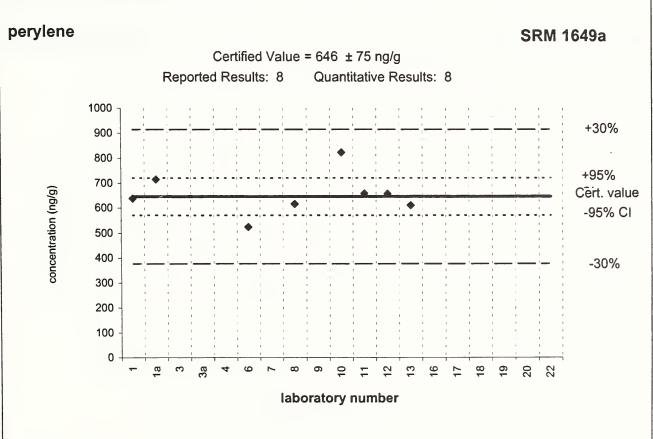


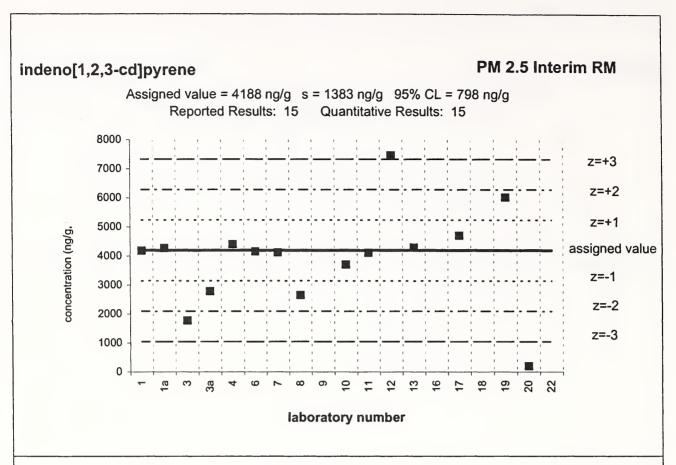


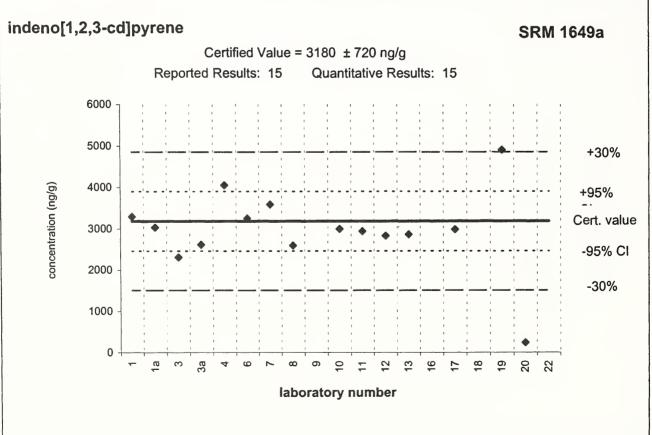


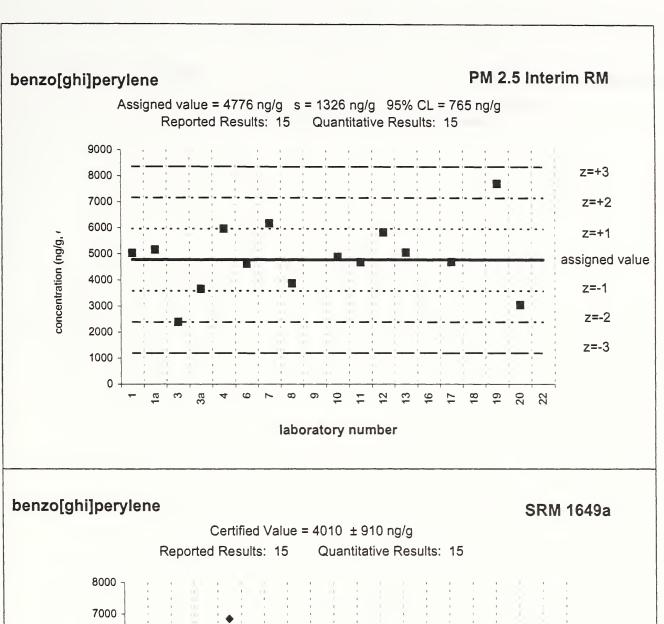


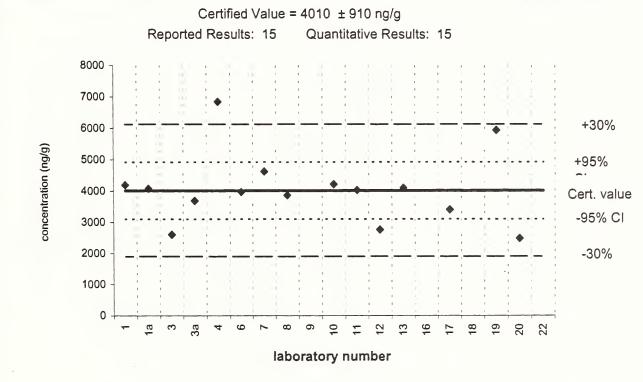


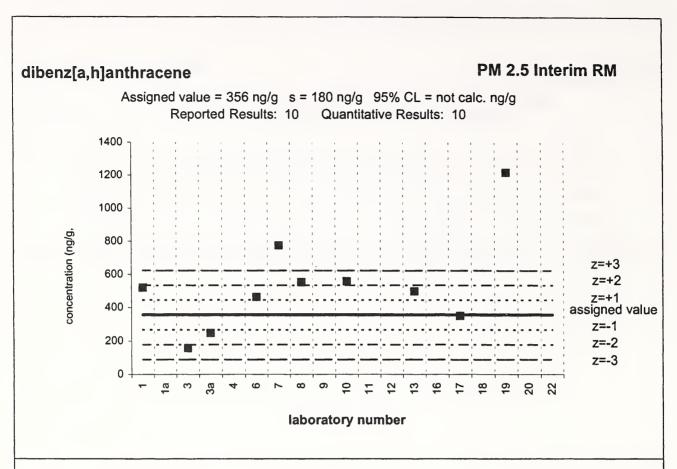


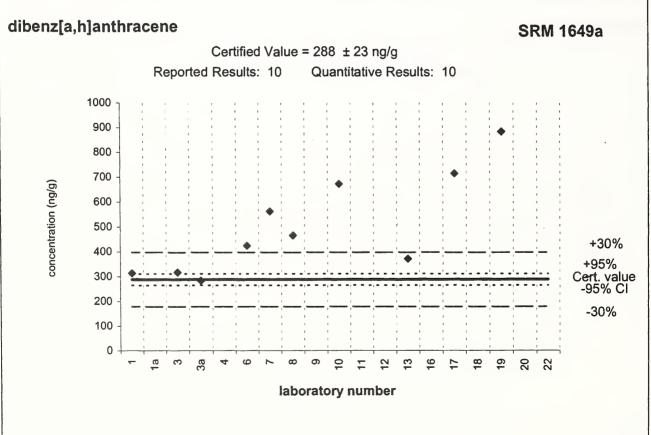


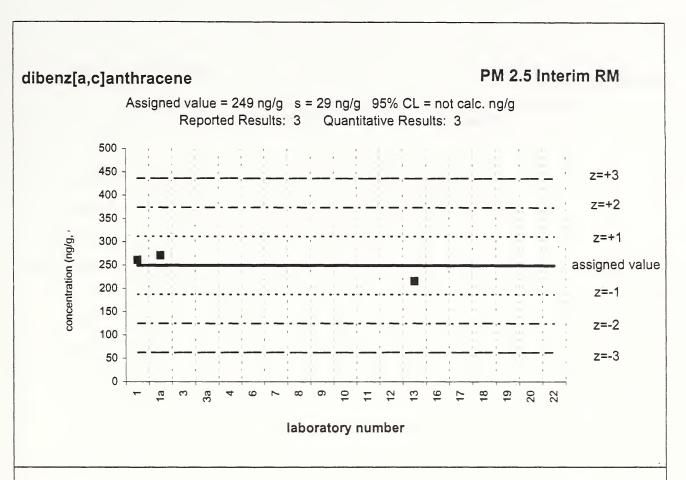


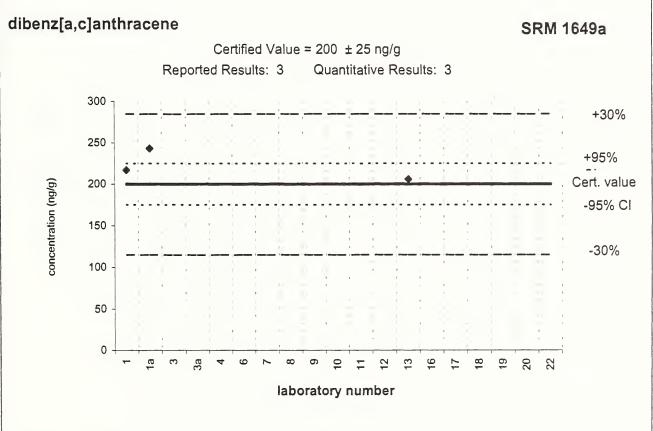


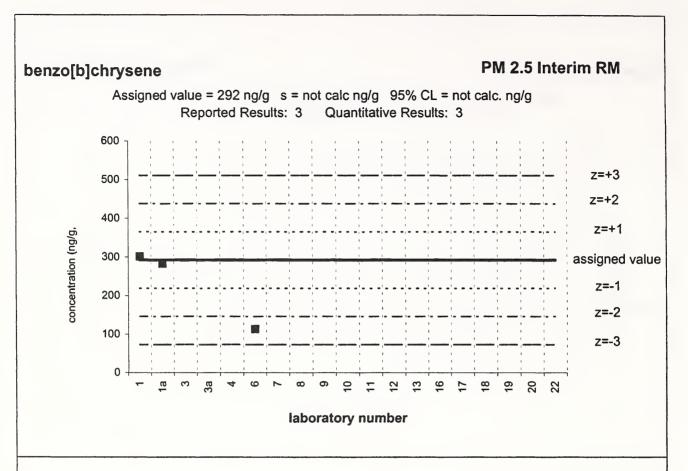


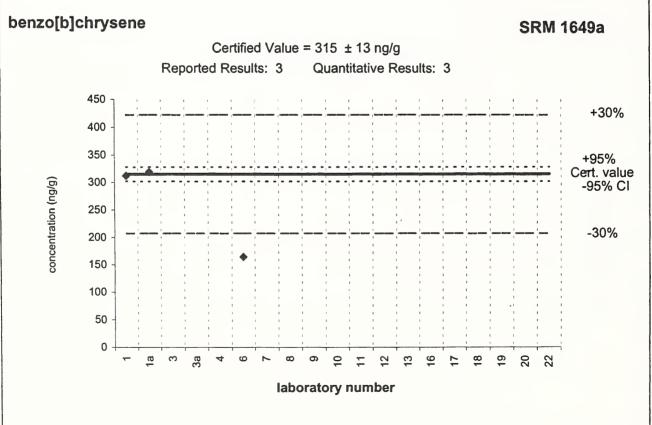


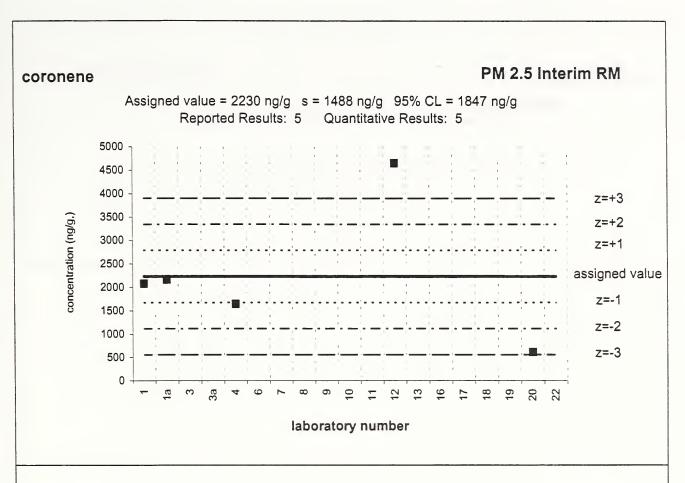


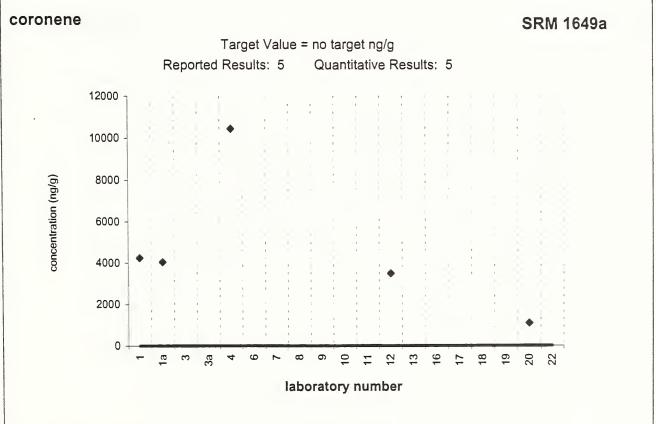


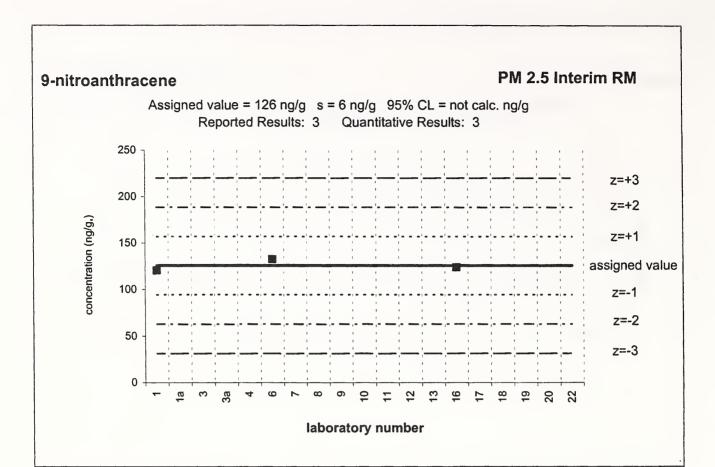


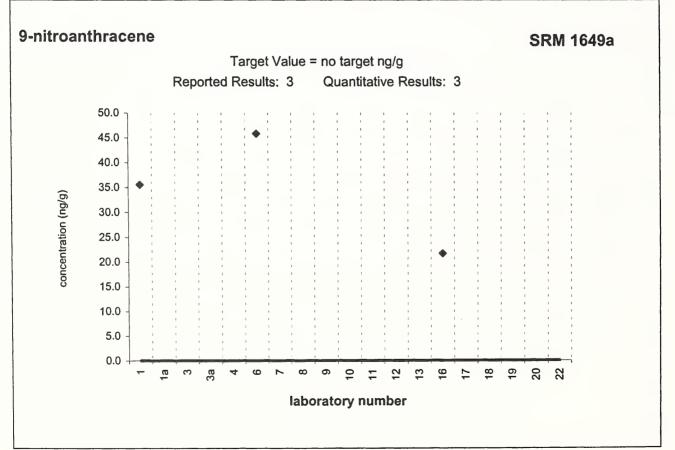


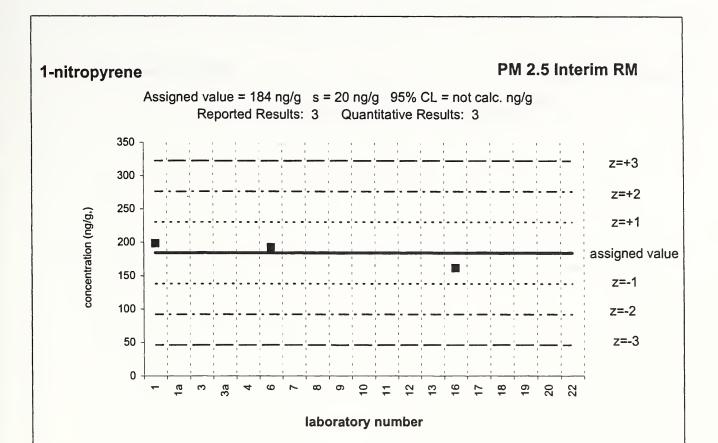


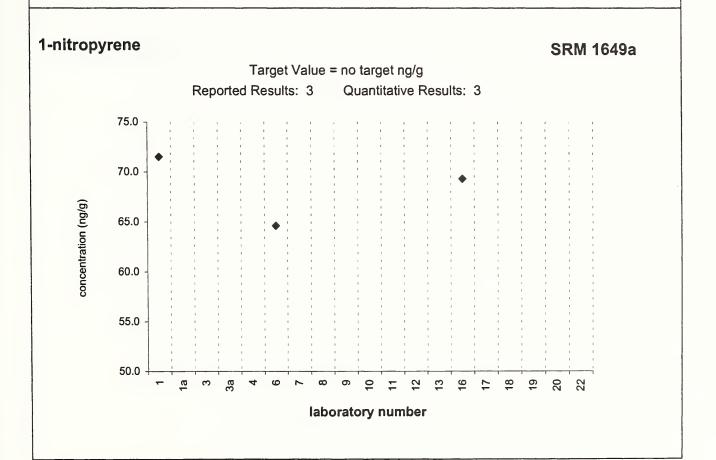


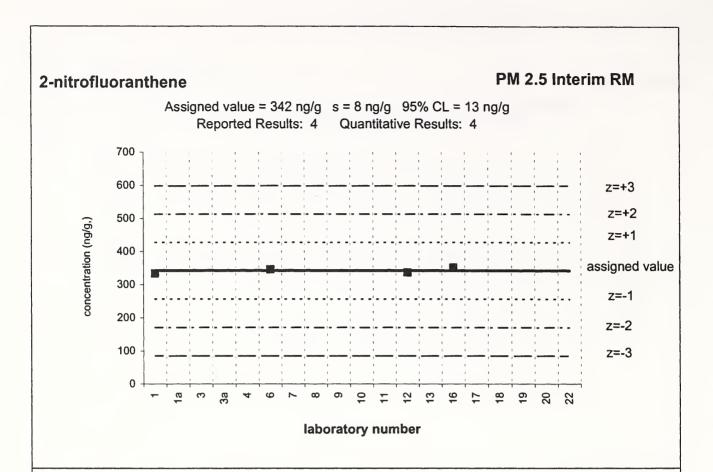


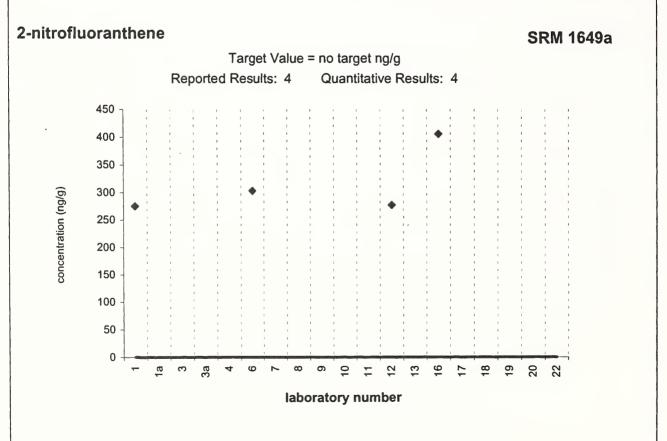


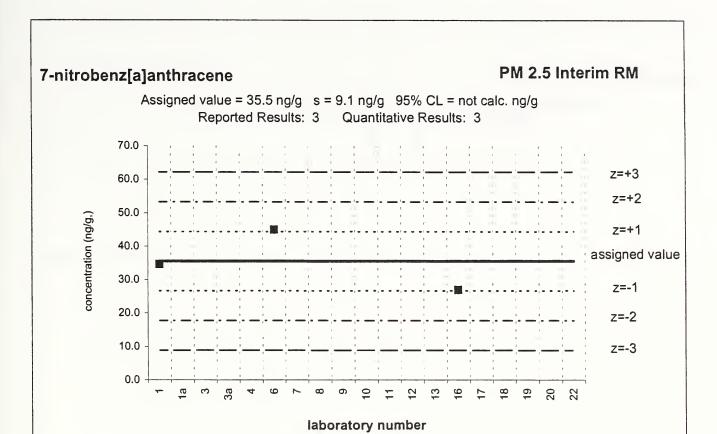


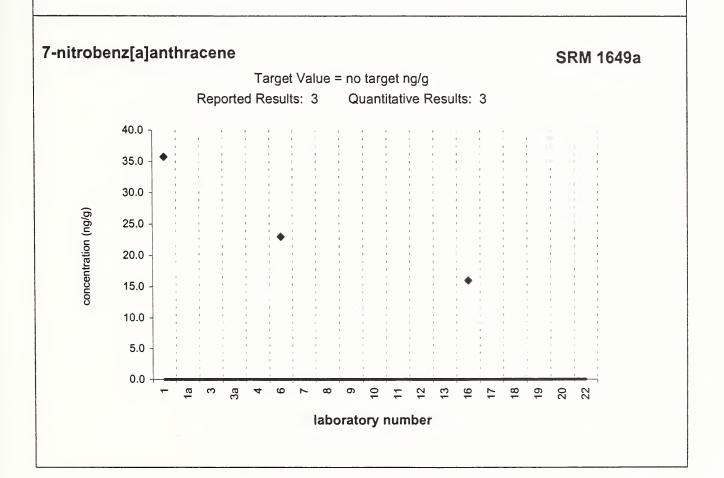


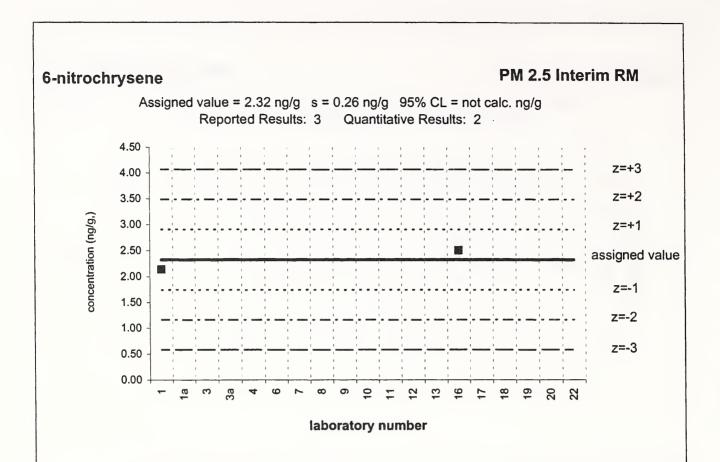


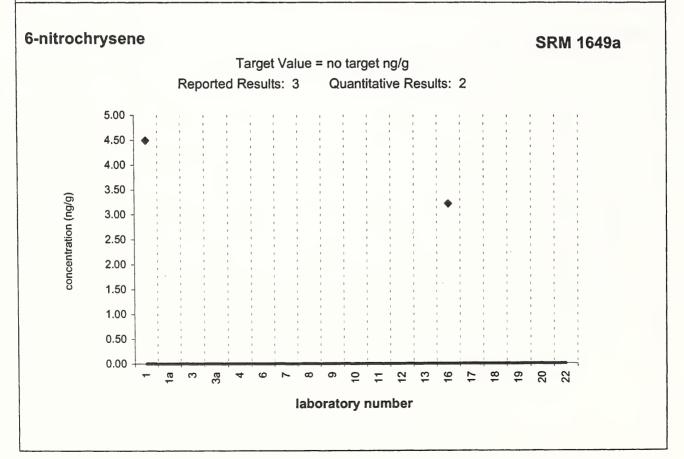


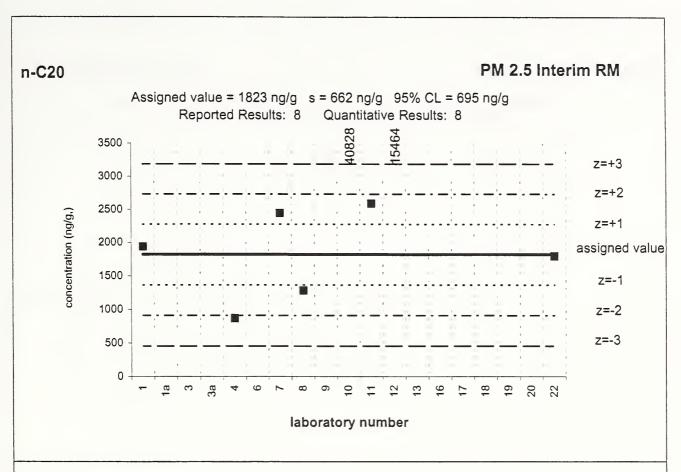


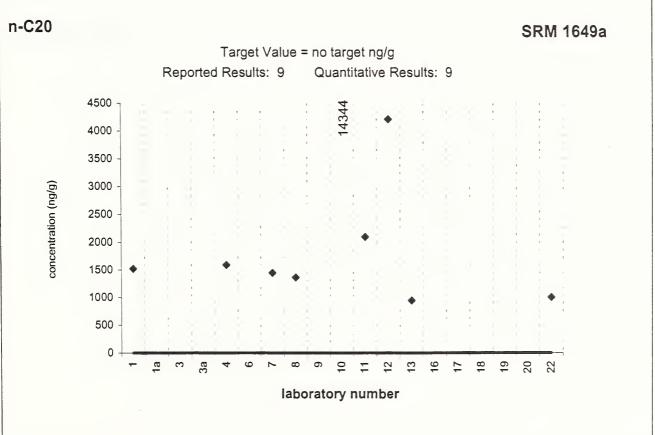


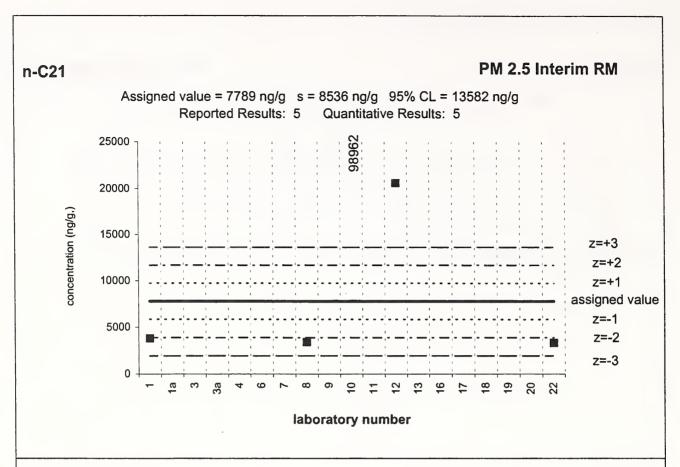


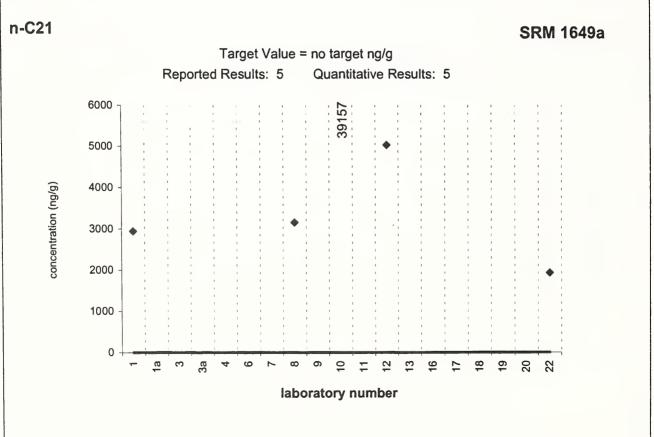


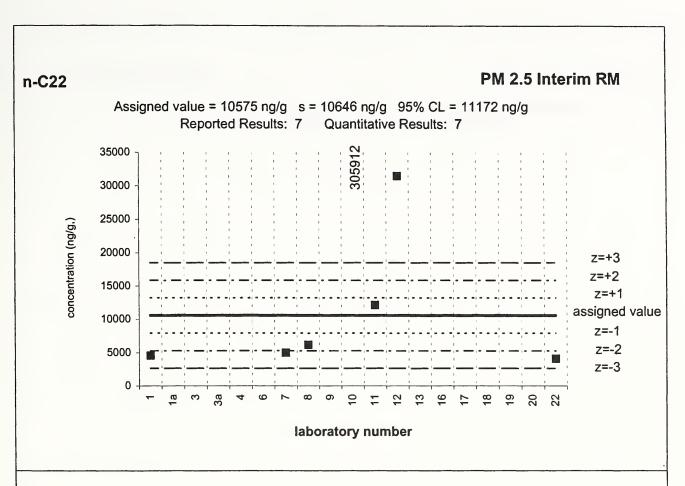


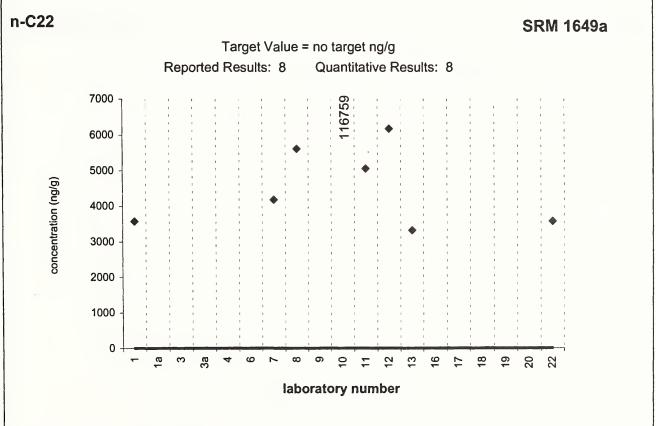


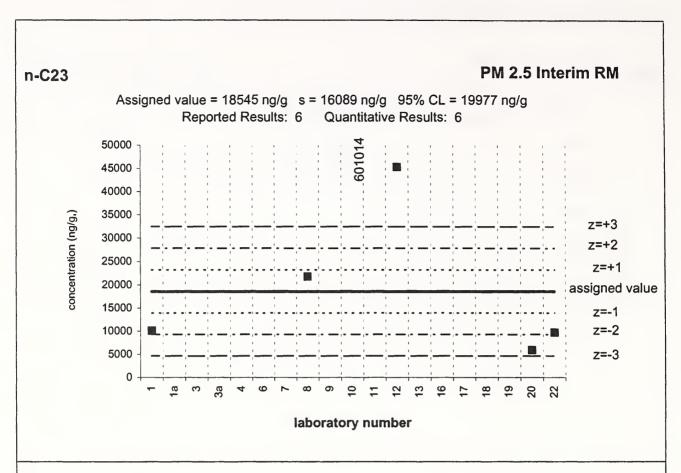


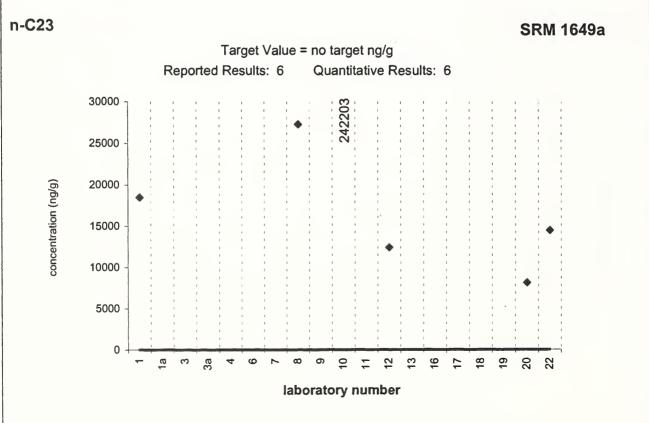


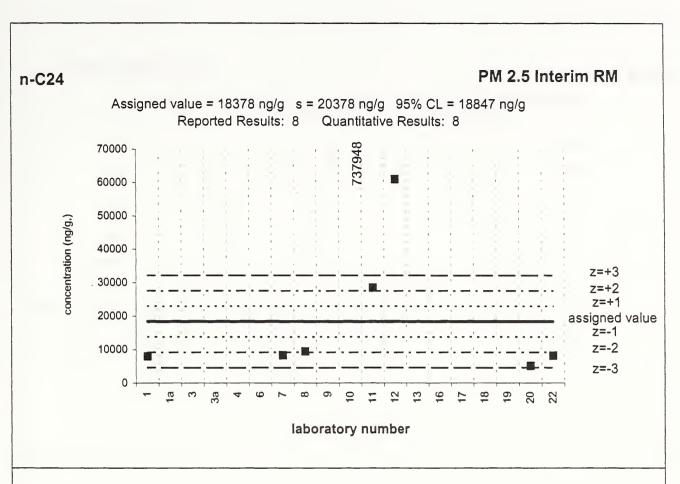


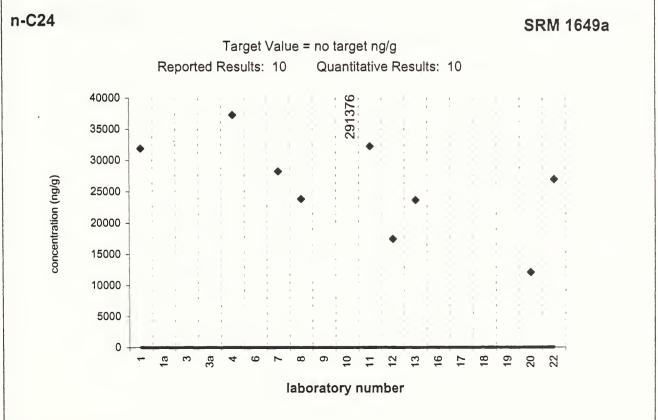


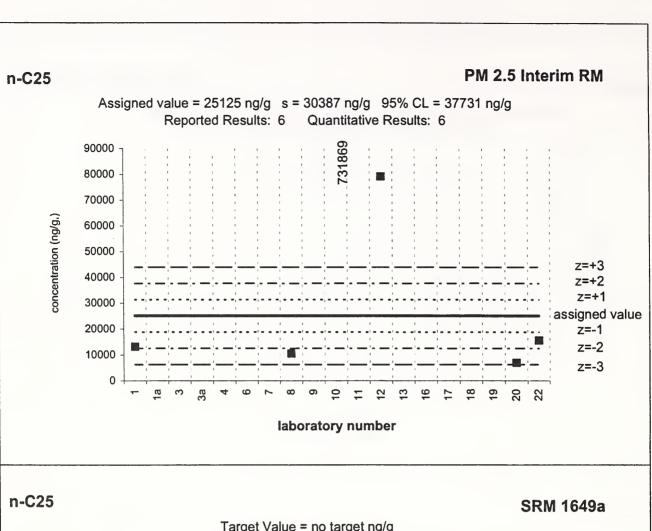


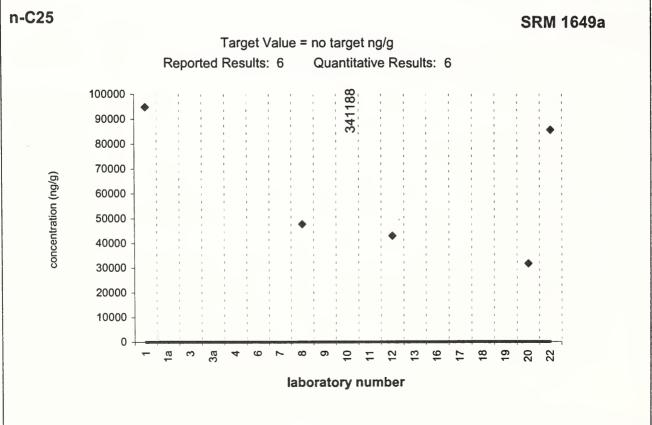


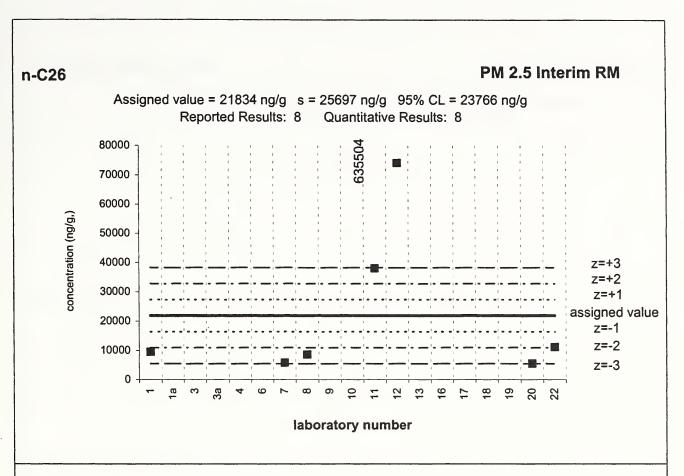


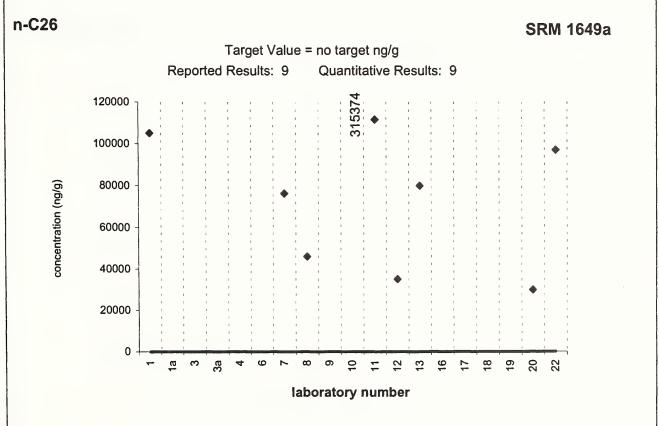


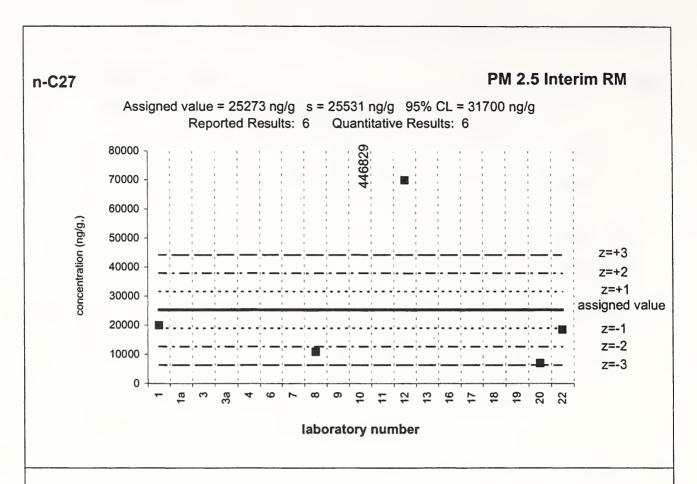


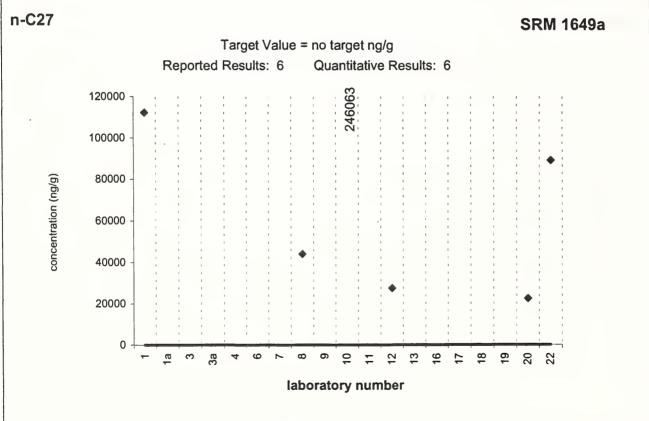


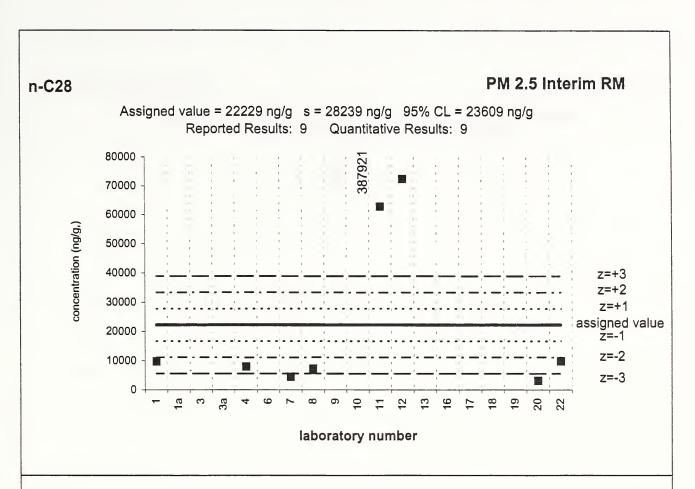


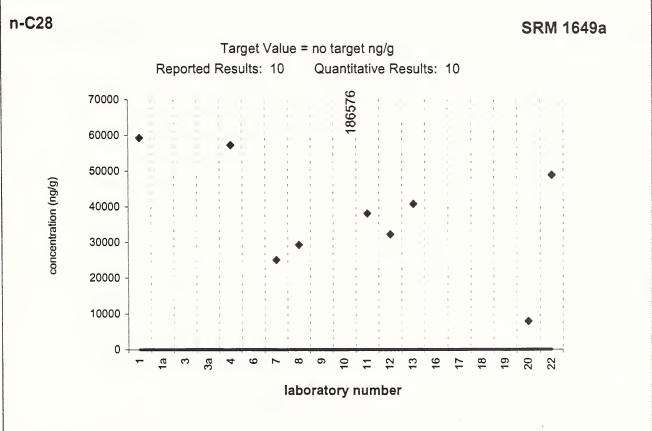


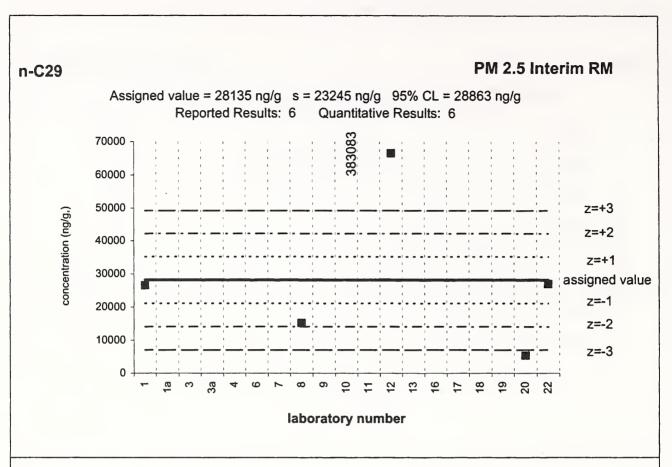


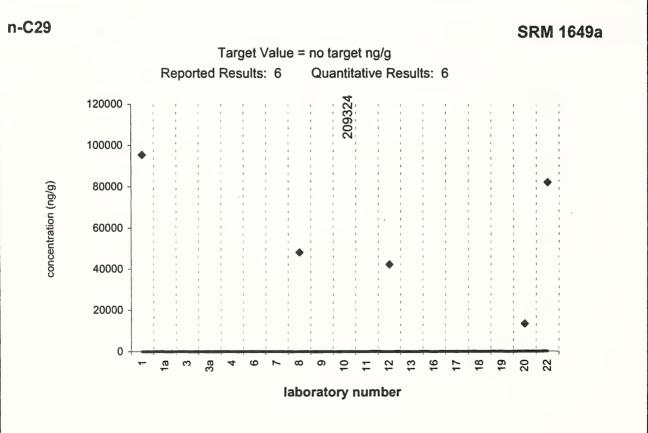


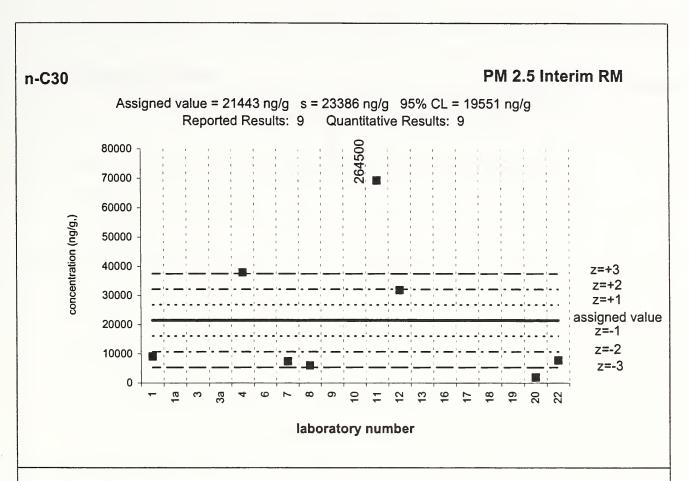


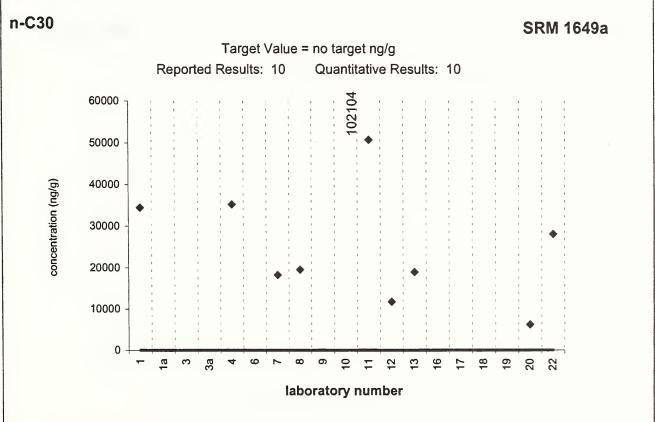


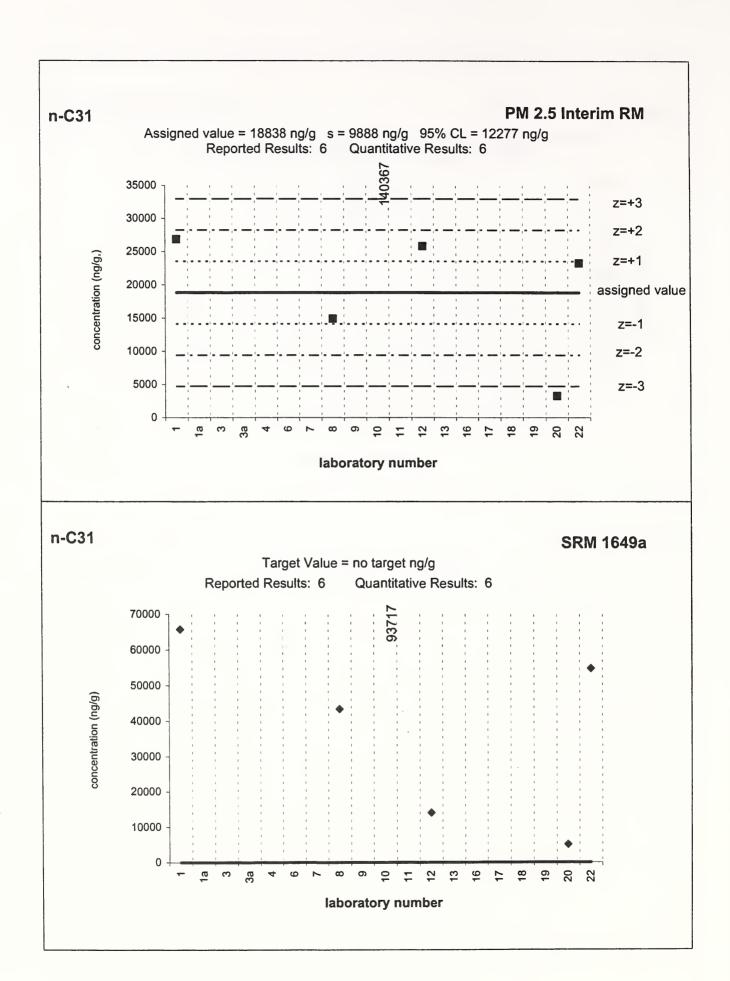


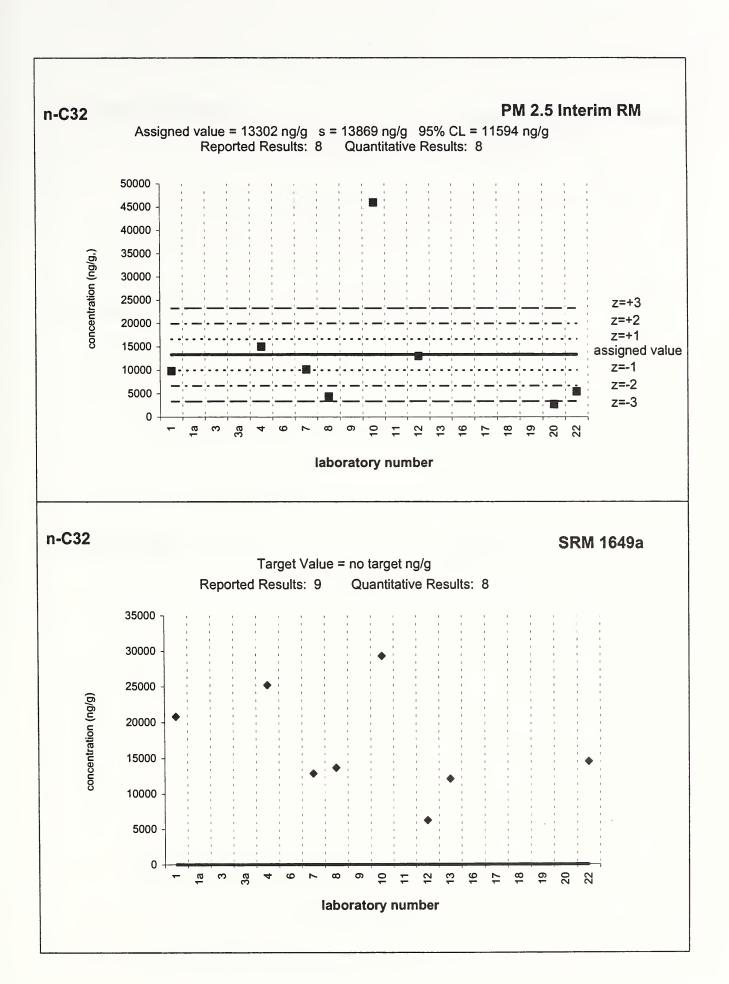


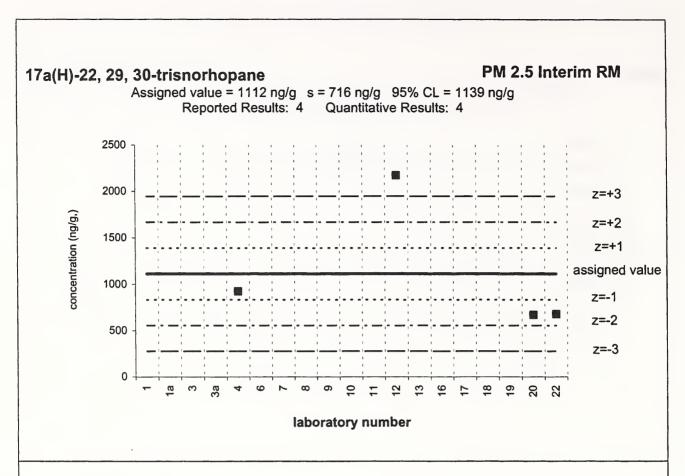


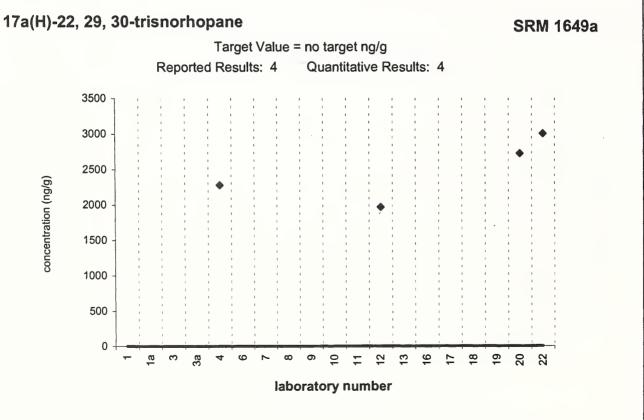


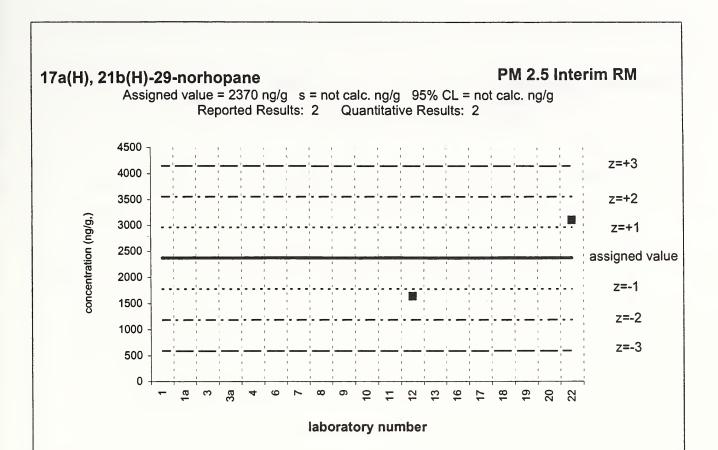


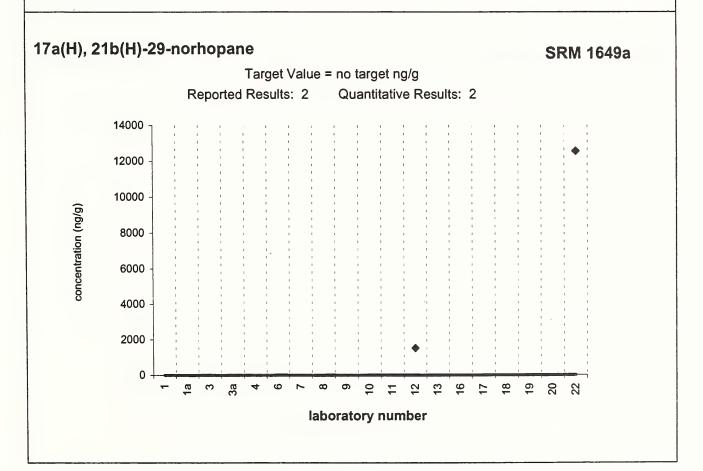


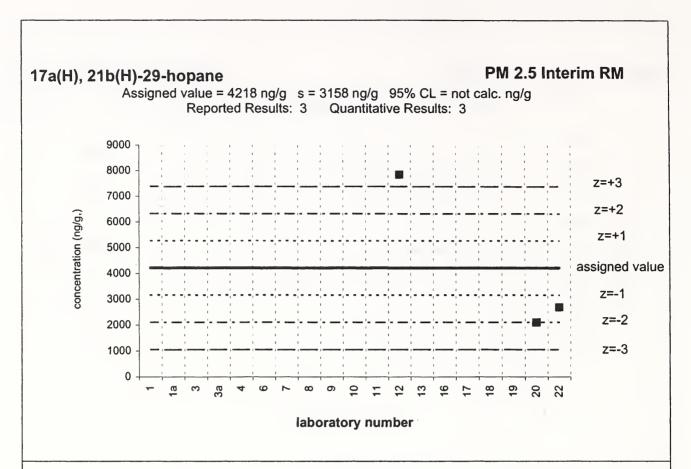


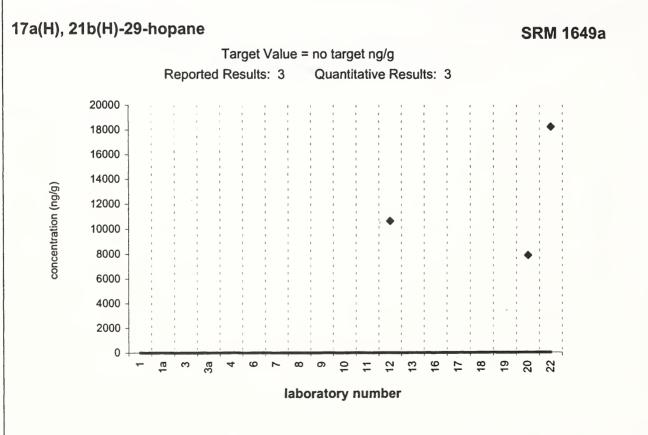


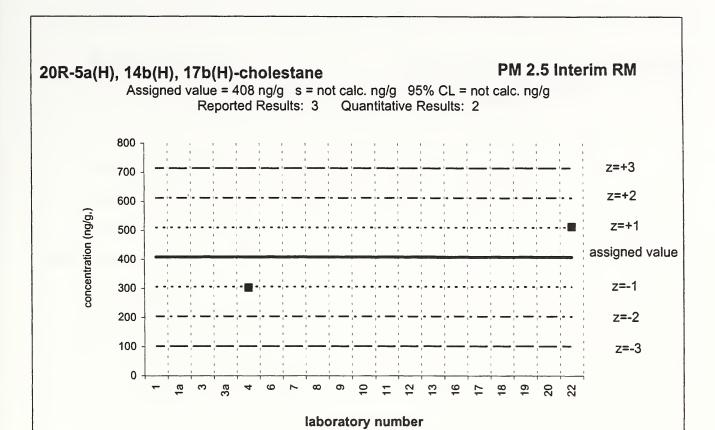


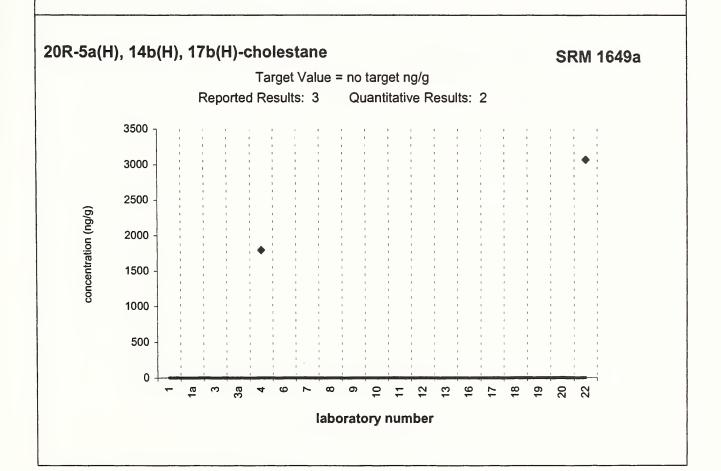


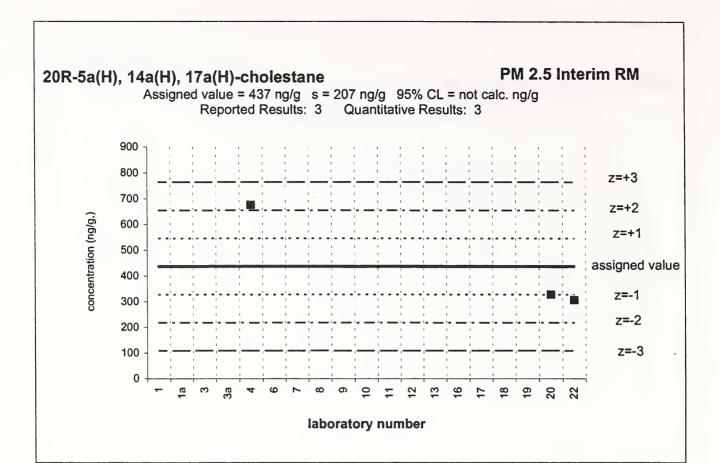


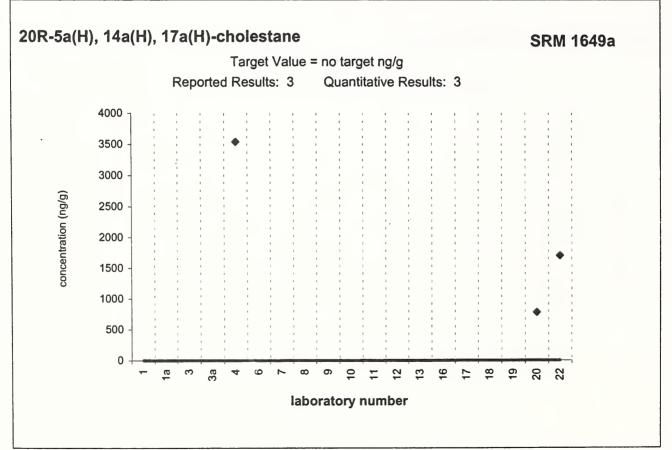


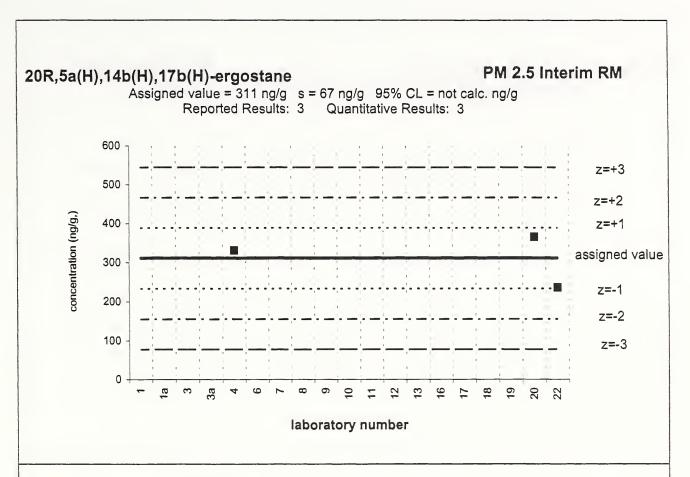


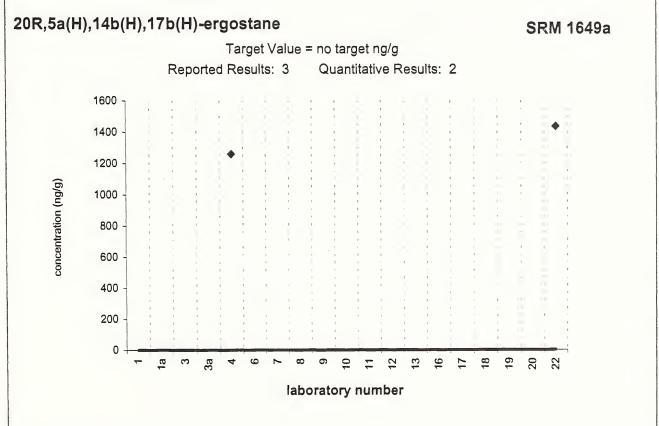


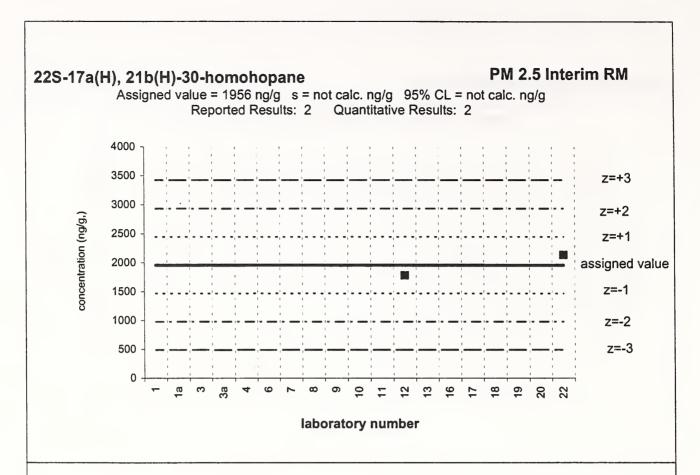


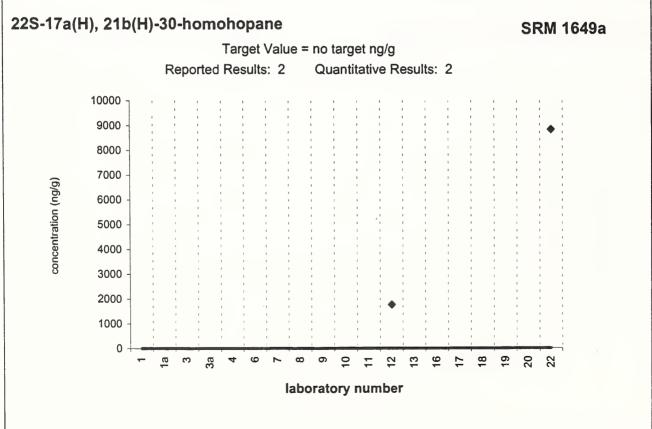


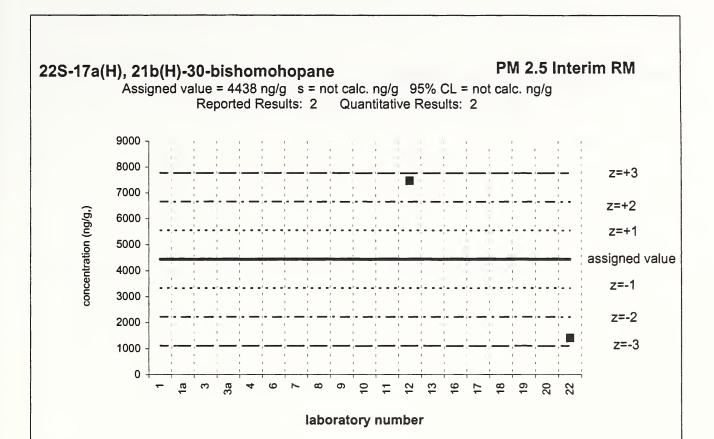


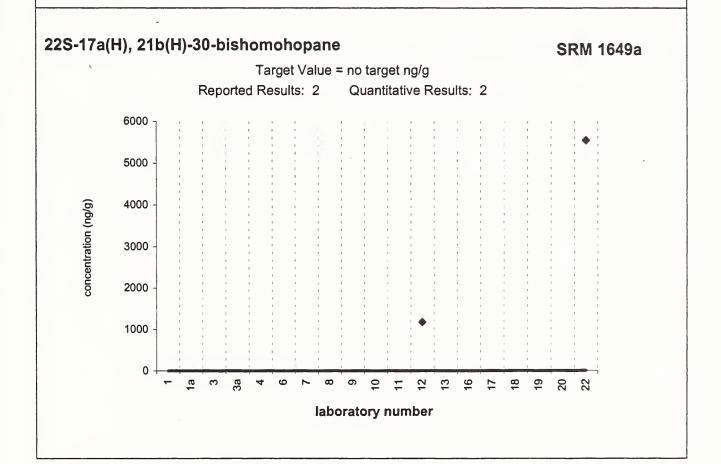


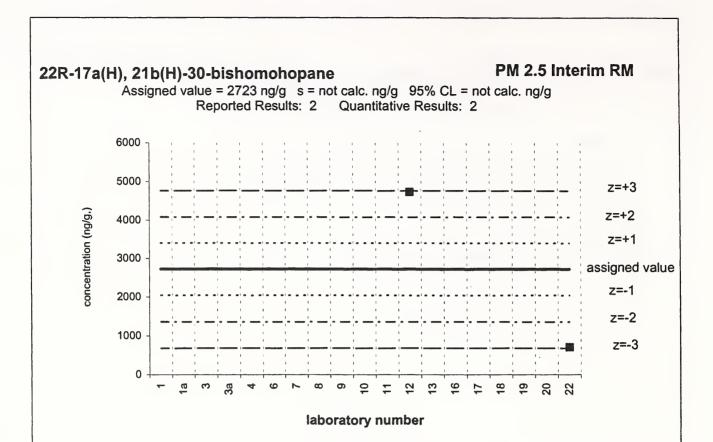


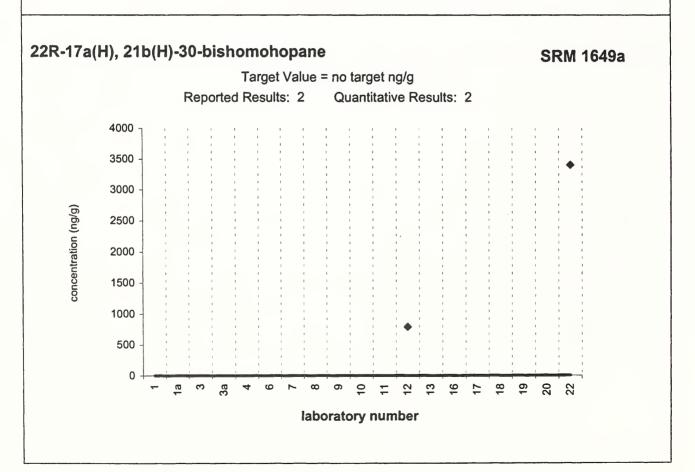


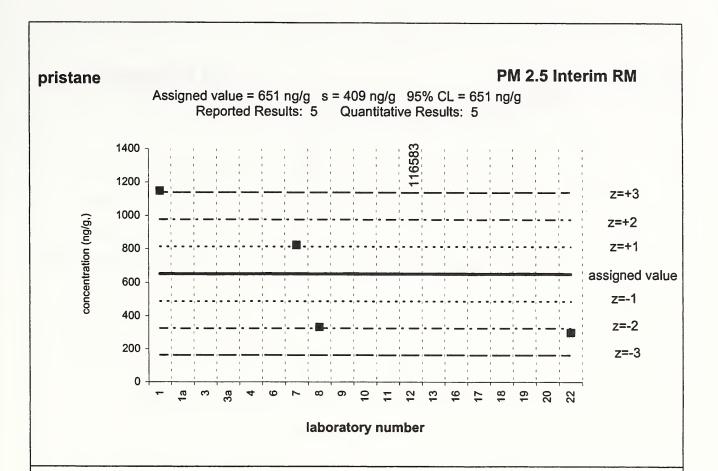


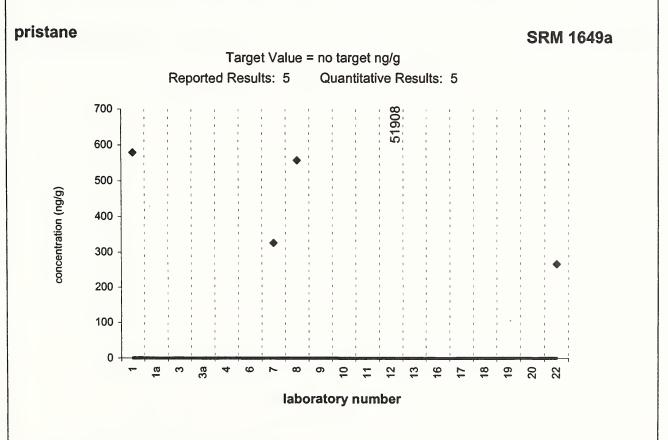


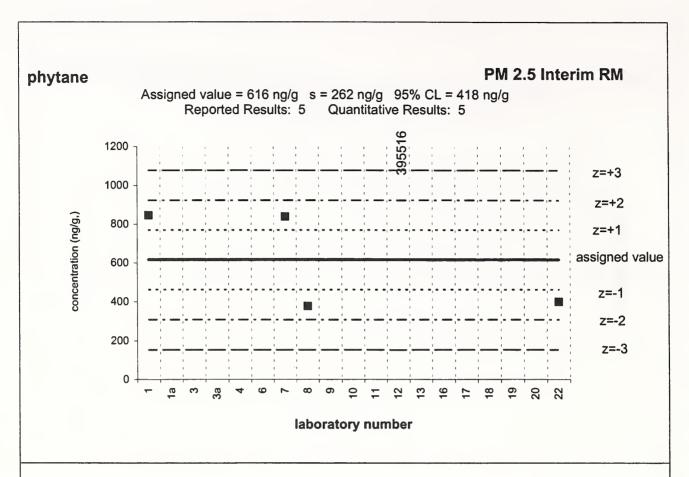


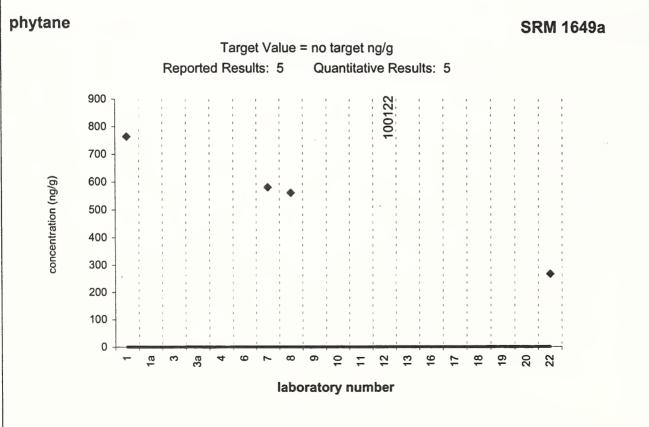


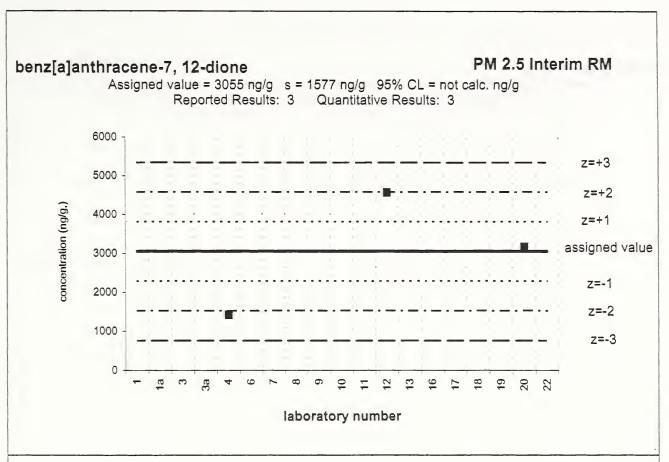


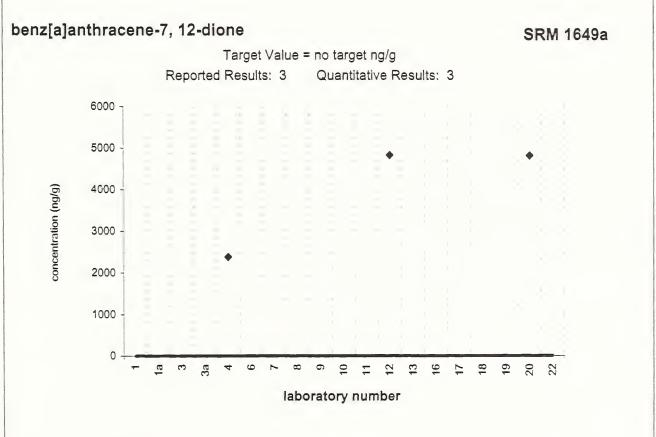


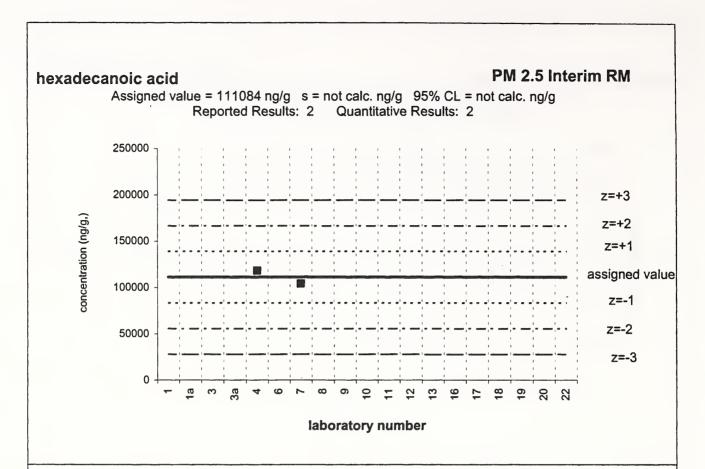


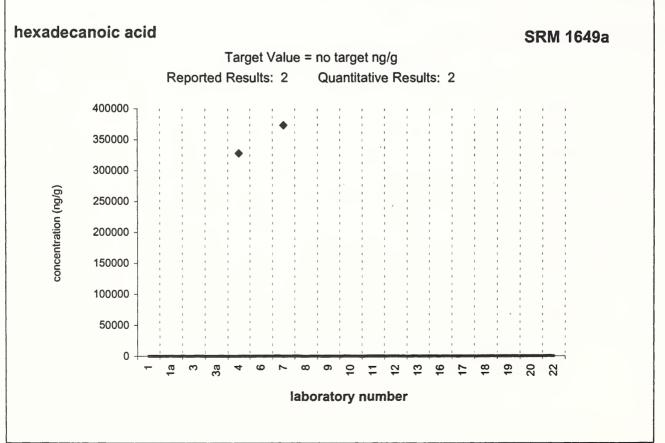


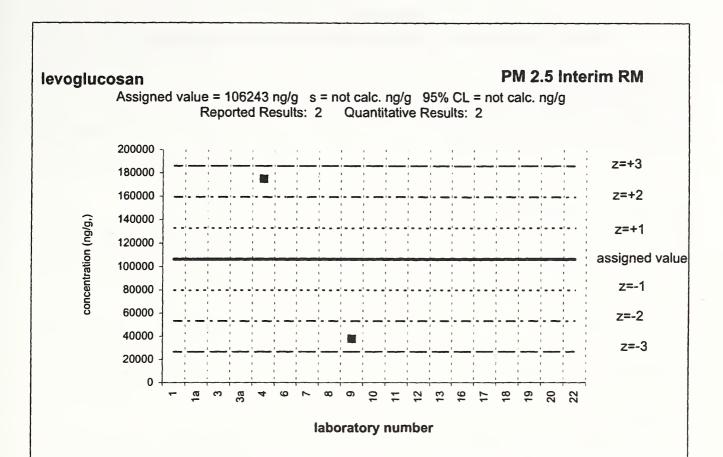


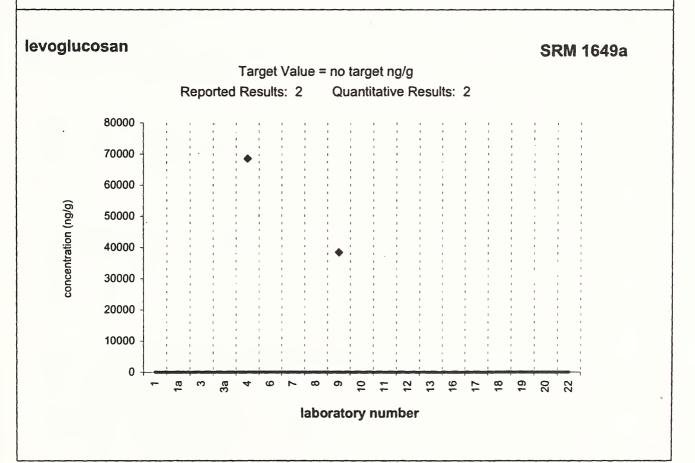












## Appendix G List of Participants in Alphabetical Order by Institution

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